

Light Commission May 30, 2023 meeting minutes

To: Light Commission: Commissioners
Light Department: J. Kowalik, General Manager
From: Jean-Jacques Yarmoff, Secretary
Date: June 1, 2023
Re: Commission Meeting May 30, 2023

A quorum being present, Light Commission Chair Mike Hull opened the meeting at 4:00 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: Frechette, Hull, Smith, Wolf and Yarmoff participated in person;
Light Department: General Manager, J. Kowalik; Distribution Manager, Greg Chane and Manager of Tech. Operations, C. Coleman
Invitees: Zoe Eckert, Sustainable Energy Policy & Program Senior Manager, and Justin Connell, Director of Energy Markets, both with MMWEC.

Approval of Minutes of previous meeting.

Vote #2023-22 A motion to approve the minutes of the Light Commission meetings of May 4 was moved by Commissioner Wolf and seconded by Commissioner Frechette. **Unanimous.**

Comments from the Public

Questions from Michael Rosenberg, 23 Lincoln Ave in Marblehead: Is it possible to have information about the meetings posted earlier? And it can be difficult for working people to participate to a 4 pm meeting.

Answer: Agenda is posted a week before the meeting. Meetings are generally held the last Tuesday of the month. Please note that you can also participate remotely with the GoToMeeting link given in the agenda.

Q: Our concern is what will happen to the green space behind our house, and what may happen over the next couple of years in view of the Light Department using the Tioga Way site. **A:** See discussion below.

MMLD Power Portfolio Roadmap

General Manager Joe Kowalik presented a graph, showed page 7, forecasting the total amount of energy that Marblehead between now (about 100,000 MWh per year) and 2050, taking into account a 2.4% growth rate (ISO-NE CELT forecast). This forecast predicts a near doubling of the total electric energy consumed by Marblehead by 2050. The graph also shows the portfolio of contracts that MMLD has entered into, as well as the state and the town's Green House Gas (GHG) emission constraints. The next table shows the cost of energy for each of the sources. The cheapest electricity that Marblehead purchases is non-GHG emitting. Distribution Manager Greg Chase reiterated his concern that the distribution system might not be ready for such a large increase, as it has not been upgraded for a long time. For a detailed discussion of the graph and of Marblehead power portfolio and its evolution, the impact on distribution, please refer to the discussion section below, page 4.

Commissioner Smith mentioned that MMWEC has asked repeatedly to have an understanding of the goal that Marblehead might have for non-GHG emitting contracts, and that we owe them an answer.

Commissioner Yarmoff moved the following motion, seconded by Commissioner Frechette:
“The Marblehead Light Commission is setting for MMLD the goal of reaching 70% carbon-free electricity in 5 years (2028) and 85% carbon-free electricity in 10 years (2033). This will reduce our dependence on costly fossil fuels and ensure energy portfolio diversification, both of energy sources and prices. The definition of carbon free electricity shall be as described in the 2021 Act, Chapter 8, Creating a Next-Generation Roadmap for Massachusetts.”

Vote #2023-23 Motion was approved 4-1, Commissioner Hull voting against.

Solar Projects on School buildings

General Manager Kowalik presented the possibility of installing solar arrays on school buildings, following receipt of a proposal from a vendor. This proposal has been evaluated by MMLD and by MMWEC, to ensure the validity of the financial assumptions. The presentation of today is not intended for a decision. Rather, it is to present data and a methodology to evaluate all the projects, so that the board can make appropriate portfolio decisions. Shared understanding of the assumptions, the uncertainties in the project, and the sensitivity of the financials with regards to these uncertainties is important, as will be a better understanding of the business equation. For more details, please refer to the discussion section page 6 and to slides page 7 to 9.

Sea Level increase: Resiliency Planning

General Manager Kowalik updated the commission on the status of the work of the town to obtain a state resiliency grant with CZM, the Mass Coastal Zone Management resiliency grant, which has been submitted to the Massachusetts EPA for approval. Extracts from the dossier are shown in slides page 10. Main changes proposed in this application are installation of:

- Wave attenuating docks in front of Hammond Park;
- Granite seawalls to be elevated from current 8.27 feet to 11 feet, and option of 13 feet;
- Footbridge over water between Hammond Park and Parker’s Boatyard.

This will facilitate access to the public to town properties.

Security Fence

An initial proposal from a vendor for the building of the security fence around 80 Commercial Street seemed too high and MMLD is asking for a rebid. This will be presented to the Commission at a future meeting. A state grant of \$70K may offset some of the costs.

Commissioner Wolf mentioned that a different design was proposed by Commissioner Yarmoff, which should be cheaper as it has a shorter perimeter, will this design be considered? Yes, several design will be reviewed. Also, if the footbridge proposed in the CZM grant application becomes a reality, there will be no need for fencing on the back of the building.

General Manager updates

(See last slide, page 11)

Financial operations: Given a lower price of energy, MMLD will start reducing the PPA starting June. Commissioner Yarmoff asked that MMLD make sure that the depreciation account of MMLD be one that is interest bearing at the best available rates. Some of the accounts that MMLD has are restricted in terms of where the money can be held, but this is not the case for the depreciation account, and MMLD can chose the financial institution and the type of account (interest bearing) in this case.

Village 13 substation upgrade: Commissioner Hull met with the abutters at Bessom Street to discuss getting an easement to allow passage of the transformer. There are several other improvements along the right of way from Bessom Street to Village 13 substation that will be necessary to allow transformer delivery, including a weight-diffusing concrete structure (bridge at grade level) over the sewer pipe. This is still seen as easier than accessing from Westshore Drive.

Utility battery site: The town-owned site (controlled by Park and Rec.) at Vine street is apparently not an option. On the Tioga way site, it is possible to locate two 15,000 sq. ft. parcels, one for the battery location, one for storage of equipment. The two parcels would be organized so as to minimize truck movement: batteries, once installed, do not need to be accessed very often if at all. Water on the site may not be natural flowing water, rather it may be draining from Tioga way abutters. Noise generated by the batteries would only be the cooling fans of the utility scale battery and be very low.

A public meeting with abutters (some of whom are present at this meeting) will be organized to share information about the project.

Union contract: A new three year contract was signed with the union, running from July 1st, 2023.

Capital expenses: The General Manager is working with MMLD staff to put in place a revised maintenance plan for the remainder of 2023 and 2024, beyond Village 13. A review was done three years ago that listed all the projects that need to be worked on. Since Joe Kowalik has been the General Manager, work on the distribution system has been on a project basis, rather than a comprehensive review of the system need and evolution. This needs to be updated.

Commissioner Wolf requested that we have a review by an engineering firm to give us a comprehensive view of the work that needs to be done.

The General Manager pointed out the importance of the GIS system to be able to inventory and map all the assets of the department. When we have that data, we can correlate it to the outage data that we have. While a system was in place 10 years ago, it has not been maintained since. Any engineering review of the existing system will need that data. Getting load data every 15 mn will also help in understanding the evolution of EV and heat pumps use at the circuit level.

Commissioner Wolf re-iterated that we should have a long term capital plan and a whole system review. Commissioner Yarmoff pointed out that by 2050, when the load we serve will have doubled, we know that the distribution system will have been completely rebuilt. Existing transformers will have been replaced, either because they will have become obsolete, or because they cannot serve the new load. How much will that cost? We can have that information at the macro level and use it to develop a long term capital plan. The fear is that we are largely underinvesting and not preparing for the future grid that we need to have.

Commissioner Smith asked that the department present the maintenance investment proposal at the next month board meeting so that we can make progress on this important subject.

The Light Commission meeting ended at 6:53 pm after a motion to adjourn was proposed, seconded and unanimously adopted.

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Discussion section

MMLD Power Portfolio Roadmap

The graph on page 7 presents the evolution of energy consumption in Marblehead, the GHG emission limits imposed by the State or proposed by the Town of Marblehead, as well as current and future MMLD Power Portfolio composition to 2050, and the contracts, existing or possible, and their extension in the future.

Evolution of the load. In the past years, Marblehead used about 100,000 MWh of power every year. Given the changes at the State and Federal level, it is clear that our energy use is going to increase. By how much? We use here the growth forecast by ISO-NE for the next decade, the CELT forecast they publish every year: in their latest forecast, this number is 2.4% growth per year (which does not take into account behind the meter solar installations). This 2.4% growth is the number we are applying from today until 2050 in this graph.

By 2050, our load will nearly double. This is consistent with the other estimates that we have.

Emission targets. The black dots on the graph identify the MA Climate Law's targets, which start in 2030: our electricity has to be at least 50% non-emitting by that time. By 2040, the target for Municipal Light Plants is 75% non-emitting, and by 2050, the target is to have 100% non-emitting electricity. The red dotted line at the top of the graph corresponds to the Town of Marblehead target for decarbonization which has been approved by the Select Board, a target of Net-Zero by 2040. For MMLD, options for energy sources include wind, solar, nuclear and large hydro as possible sources of non-emitting electricity, all of which are appropriate as per the Climate law.

Portfolio of energy supply sources. In this graph, the grey area corresponds to what MMLD buys on the markets (electricity largely from gas-fired plants), and the colored areas correspond to contracts we currently have, or are likely to have.

- The dark green represents existing contracts. On top of the dark green, the small light green area corresponds to the Berkshire Wind Farm: we have been selling RECs and as such, this part of our portfolio does not count toward non-emitting electricity. But we can stop selling the RECs at any time, and this gives us some leeway in meeting our obligations.

The light blue represents a likely extension of our contract with Hydro Quebec. The area where the dark green turns to dark blue around 2032, represents the contract term for hydro power from NYPA, which we have every reason to believe will be extended. In the same way, the dark purple represents the anticipated extension of operation of the Millstone Nuclear power plant.

- The light purple starting 2030 corresponds to the new Power Purchase Agreement 2023A, being negotiated by MMWEC on our behalf, for additional power with NextEra Energy. The amount we requested is larger than what was initially allocated to Marblehead.

- The green area in the 2030s represents expected off-shore wind availability and hypothetical contracts.

Commissioner Yarmoff stressed that besides what is represented on the graph, there are a number of other opportunities from which MMLD can hope to obtain energy in the future, at very attractive prices. These include Hydro-Quebec electricity (the Maine Connector cleared legal hurdles recently), on-shore and off-shore wind.

Targets for non-emitting energy in the portfolio. . Commissioner Frechette reiterated that MMWEC has requested that MMLD provide them with targets to shoot for: the work MMWEC does is dependent on their members' requests. Recently, Light Plants in other towns were able to get more solar electricity from Ludlow than MMLD did: as we did not have any target, we did not ask for more, even though the supply was at an attractive price. We should not be complacent in thinking that 2040 is a long way away and will take care of itself. We must have 5 and 10 year targets that will put us on the path to where the town wants to be in 2040 Commissioner Wolf: Having some interim goals between now and 2030 motivates us and MMWEC – on our behalf – to be looking for contracts for clean energy, as they are in the market.

Commissioner Yarmoff introduced 5- and 10-year goals as follow: 70% carbon-free electricity by 2028 and 85% carbon-free electricity by 2033. Commissioner Hull asked if there was a cost analysis of this proposal. Commissioner Adam explained that the goals are encouraging us to look at opportunities, and that given the cost of gas-generated electricity, they encourage us to diversify where it makes sense. The benchmark of gas fired electricity will be an important consideration as we approve new contracts. Commissioner Wolf gave the example of the Commission voting unanimously to recommend entering into a contract for a Seabrook PPA, and the commission requesting a volume 50% higher than what initially was proposed to us: we already anticipated that we would need a large amount of carbon free electricity, larger than what was allocated to us absent any MMLD target. Diversification of sources is also key to balanced prices. The price increases that have been forced on rate payers show that depending on gas for a very large part of our portfolio carries its own risks. The towns that had the largest cost increase this last year where the ones where gas represented the largest piece of their portfolio. Commissioner Hull reiterated his concern about high cost of energy, stating that the General Manager was already trying to get more energy. Commissioner Smith mentioned that MMWEC had asked to have an understanding of the goal that Marblehead might have, and that we owe them an answer. As we know that more opportunities are going to be coming our way, we need a framework to make these decisions. This is what this proposal is about: to put in place a framework in which we can take the future decisions.

LCOE of energy in portfolio. The General Manager showed the Levelized Cost Of Energy (LCOE) for each component of the MMLD portfolio (see slide pages 7 and 8). Selling the RECs of the Berkshire Wind contracts diminishes the LCOE by nearly 4 cents currently. The Ludlow Solar project price is shown on the following slide with a favorable projected LCOE of 8.7 c/kWh. When the Maine Connector is actually built, one can anticipate that electricity cheaper than Spot Market will be available. This list shows that it is possible to have contracts with non-emitting sources that are economically sound. The targets that are proposed at not “aspirational”, they are achievable, with existing technologies and projects that will come on the markets in the coming years, and with the type of contracts that MMLD has entered into to date.

Impact on Distribution System

Distribution Manager Greg Chane remarked that the discussions about energy purchase are quite separate from the needs of our distribution system. And yet, if we do not have a distribution system that works, we will not be able to deliver any electricity. We do not seem to be talking about this urgent need. Commissioner Yarmoff reminded Distribution Manager Chase that the Commission had been asking to see a capital budget plan for many months and that this has not been forthcoming. He stated that he had been on the job for two months and that he did not have a budget yet. Commissioner Adams reminded the audience that the role of the board is to set policy and evaluate the General

Manager. The Commission tries to lean on other aspects, but Operations –as per Chapter 164 of the Mass General Law- remains the sole responsibility of the General Manager. Commissioner Smith asked that a Capital Needs Assessment be presented at the next board meeting. Comparing the needs to our existing Capital Funds, the board can evaluate how to fund the additional capital needs that we know exist. Commissioner Wolf remarked that at the previous meeting, when Distribution Manager first addressed the board, this was the first time that the board had been made aware by MMLD of the dire state of the distribution system. While the board has been asking for it, there is no capital plan in place. Commissioner Yarmoff noted that since he has been on this board, for the last year, while the board has prioritized the replacement of Village 13 substation, the board has repeatedly asked what else needed to be replaced. Because we know that if the most important distribution asset in the town has been left to decay for 56 years, it is probably not the only one, and other important assets also have to be replaced. This has been introduced as a key goal for the General Manager from the start of the conversations on Goals last year. Commissioner Frechette reminded the audience that working on goals has been a long process. So today represents the result of a lot of work. At the same time, we need to be both strategic and tend to the daily needs. And if MMLD can tell us at the next board meeting what the investments should be, we would like to hear.

Solar Projects on School buildings

MMLD has received a proposal from a vendor for projects on school roofs shown on the slides page 8 and on. These results take into account the tax credits benefits from the IRA for these installations. The IRA gives tax credits to entities like MMLD, and these tax credits will have a big importance on the financial viability of the projects. Depending on the census track where the projects are located, and their adjacency to the Salem decommissioned coal plant, the IRA credits are different: the 30% is increased by an extra 10%. Marblehead High School and Glover School are in a census track that does not benefit from this extra tax credit, the others are (See slide at the top of page 9.) With these assumptions, and the vendor proposal, we can calculate the levelized cost of energy to be 14c per kWh and the total energy that might be produced to be 2500 MWh per year, if all the roofs are converted to solar.

The General Manager presented the pro-forma model developed by MMWEC to evaluate solar projects and the assumptions made by the vendor, Solect, and by MMWEC where they might differ. An important variable is the future price of Class I RECs. Where the vendor keeps the RECs at a stable \$40 per unit, MMWEC's assumption (based on S&P Global forecast) is that the price of the RECs will decrease from 2026 to reach a low \$5 per unit, decrease caused by the arrival on-line of off-shore wind projects. The predicted evolution of the REC spot prices is shown on page 9. The revenues the project generates will come from both the RECs, as well as the avoided energy not bought, the avoided transmission and capacity costs. On the expenses side, we consider the Operations and Maintenance work, insurance and cost of financing the project.

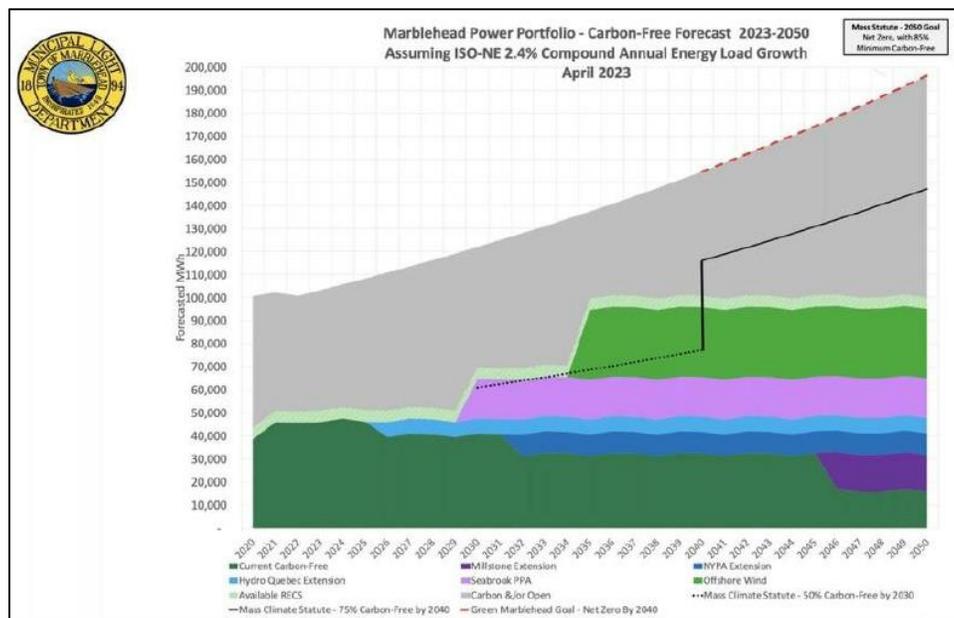
The business model needs to be refined. Some options are: MMLD owns the arrays, or the School own the arrays. Other hybrid options such as that put in place in Wakefield should also be considered, where both the school and the Light Plant benefit from the solar installs on the school roofs.. MMLD has had discussions with many school superintendents over the years. It may be easier for MMLD to raise the capital necessary for such a project than it would be for the schools, given the current situation. Having a way for the community to participate into this project, whether through a community solar, or an extension of the go-green rate may be a way to make the project financially very sound.

If the schools were considering to build this array, the electricity they would produce would be considerably cheaper than the commercial electricity they buy, and the project would be largely in the black. For MMLD, when we compare the electricity generated to the wholesale energy we buy, we struggle to make it work. This is also because the non-emitting aspects are not well recognized: if a price of Carbon replaced were incorporated, presumably the financials would look very different.

The presentation of today is not intended for a decision. Rather, it is to present data and a methodology to evaluate all the projects, so that we can make an appropriate portfolio decision. We need to understand the assumptions, the uncertainties in the project, and the sensitivity with regards to these uncertainties. Next steps are further meetings with the vendor and refining of the assumptions, and comparing various business models.

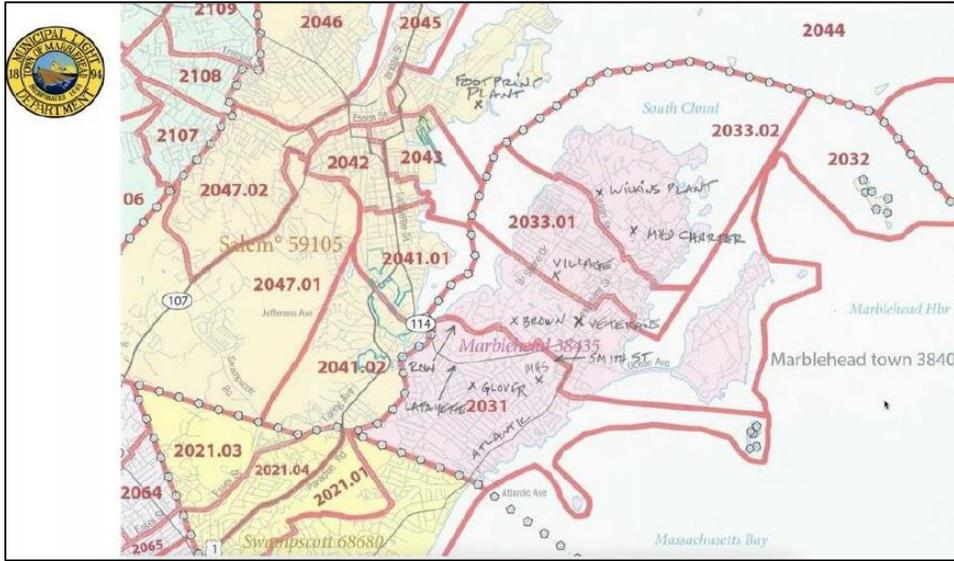
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Documents presented during May 30 Light Commission Meeting



MMLD 2022 Power Portfolio

Power Generator	2022 Actual Energy (MWh)	Total \$	2022 LCOE (\$/MWh)	2022 LCOE (\$/kWh)	Environmental Attributes included in LCOE?
Millstone Nuclear	13,952	\$ 610,373.98	\$43.75	\$0.044	YES
Seabrook Nuclear	14,751	\$ 427,620.50	\$28.99	\$0.029	YES
NYPA	8,093	\$ 152,141.38	\$18.80	\$0.019	YES
Hydro-Quebec	6,570	\$ 252,945.00	\$38.50	\$0.039	YES
Berkshire Wind 1	2,180	\$ 400,138.72	\$183.51	\$0.184	YES
Berkshire Wind 2	1,328	\$ 231,065.45	\$174.02	\$0.174	YES
Hancock Wind	2,341	\$ 163,571.65	\$69.88	\$0.070	No
Eagle Creek Hydro	1,789	\$ 103,987.34	\$58.13	\$0.058	No
Stony Brook Intermediate	2,793	\$ 681,619.23	\$244.01	\$0.244	No
Hedged Power Contracts	21,769	\$ 1,958,079.39	\$89.95	\$0.090	No
ISO Interchange Spot Market	30,838	\$ 3,200,453.43	\$103.78	\$0.104	No
Marblehead Wilkins Plant	109	\$ (55,648.29)	-\$509.70	-\$0.510	No
Stony Brook Peaking	97	\$ 77,611.62	\$803.28	\$0.803	No
Total Wholesale Energy Supply	106,610	\$ 8,203,959.42	\$76.95	\$0.077	



MMLD 2022 Power Portfolio

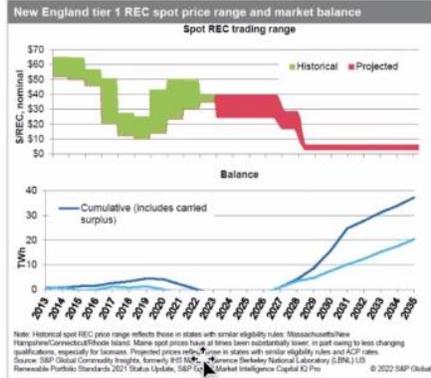
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New & Proposed Projects vs School Solar

	Proposed Energy (MWh)	Total \$	2022 LCOE (\$/MWh)	2022 LCOE (\$/KWh)	Environmental Attributes included in LCOE?
New and Proposed Projects					
Cotton Memorial Solar PV Array (Ludlow)	1,457		\$87.00	\$0.087	YES
Project 2021A (original) Mayflower OSW PPA			\$77.65	\$0.078	YES
Revised Offshore Wind PPA (est.)			\$100.00	\$0.100	YES
Offshore Wind PSA			\$92.80	\$0.093	YES
Project 2023A Seabrook PPA			\$83.00	\$0.083	YES
School Solar					
Brown School Solar PV	279		\$140	\$0.140	YES
Marblehead HS	838		\$130	\$0.130	YES
Village	540		\$150	\$0.150	YES
Veterans	432		\$150	\$0.150	YES
Glover	135		\$150	\$0.150	YES
Mhd Charter	270		\$150	\$0.150	YES
Total	2,494		\$142	\$0.142	

MMLD Solar Rooftop Project Financial Analysis (Brown Elementary)										
Year	2024	2025	2026	2027	2028	2045	2046	2047	2048	Total
System Details										
Nameplate Capacity (kWdc)	247.2	247.2	247.2	247.2	247.2	247.2	247.2	247.2	247.2	
Yearly Capacity Factor	12.87%	12.79%	12.72%	12.65%	12.58%	11.46%	11.40%	11.33%	11.27%	
Yearly Generation (kWh)	278,594	277,062	275,538	274,022	272,515	248,126	246,761	245,404	244,054	6,523,980
# of average MMLD retail customers @ 662KWH	421									
Revenue / Cost Avoidance										
Avoided Energy Costs	\$13,111	\$12,575	\$13,567	\$13,918	\$13,145	\$10,480	\$10,887	\$11,461	\$11,660	\$275,130
Avoided Capacity Costs	\$2,665	\$2,551	\$2,368	\$2,046	\$1,730	\$5,633	\$7,665	\$8,603	\$8,433	\$95,607
Avoided Transmission Costs	\$1,094	\$1,088	\$1,082	\$1,076	\$1,070	\$974	\$969	\$964	\$958	\$25,618
Total Avoided Costs	\$16,870	\$16,214	\$17,017	\$17,040	\$15,945	\$17,087	\$19,521	\$21,027	\$21,052	\$396,355
REC Revenue	\$11,144	\$11,082	\$11,022	\$10,961	\$10,901	\$9,925	\$9,870	\$9,816	\$9,762	\$260,959
Total Revenue / Avoided Costs	\$28,013	\$27,297	\$28,039	\$28,001	\$26,846	\$27,012	\$29,392	\$30,843	\$30,814	\$657,314
Operating & Financing Expenses										
O&M	\$0	\$5,344	\$5,504	\$5,669	\$5,840	\$9,652	\$9,941	\$10,240	\$10,547	\$183,975
Insurance	\$1,902	\$1,902	\$1,902	\$1,902	\$1,902	\$1,902	\$1,902	\$1,902	\$1,902	\$47,550
Total Debt Service Net ITC	\$27,320	\$27,320	\$27,320	\$27,320	\$27,320	\$27,320	\$27,320	\$27,320	\$27,320	\$683,000
Total Expenses	\$29,222	\$34,566	\$34,726	\$34,891	\$35,062	\$38,874	\$39,163	\$39,462	\$39,769	\$914,525

Tier 1 spot REC price outlook

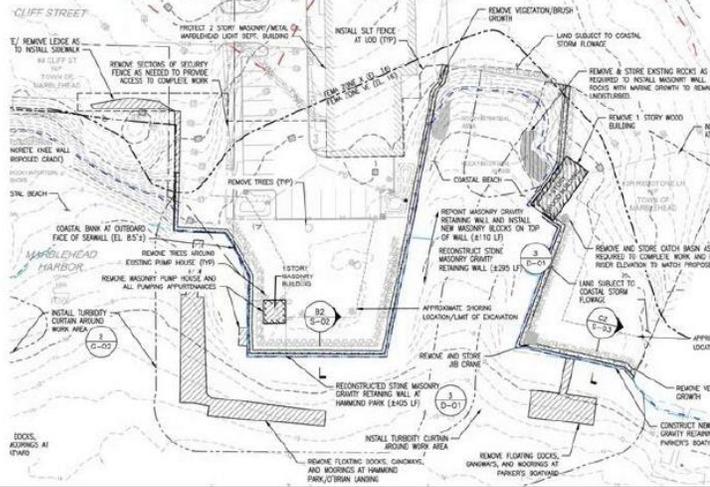


- New England tier 1 compliance REC spot prices are poised to remain at current levels until new supply comes online.
- In 2019–22, limited shortages among some compliance entities drive spot prices up. While the overall market is roughly balanced, a few compliance entities with incremental REC needs drive elevated spot market pricing.
- Spot prices will phase down in 2022–23 as Massachusetts aligns its ACP with Connecticut's; the two states combined represent approximately 62% of tier 1 REC demand.
- In 2026–27, the market returns to rough balance, with some of the same conditions that a few compliance entities with incremental REC needs maintain relatively modest elevated spot market pricing.
- Spot prices will decline beyond 2026 as resources procured under long-term contracts come online and markets become persistently long (absent further extension or expansion of existing policies). IHS Market expects prices during the period of market surplus (beyond 2027) to be below \$5/MWh.
- There is upside risk to the spot REC price outlook owing to offshore wind construction uncertainties.
- Offshore wind represents 75% of anticipated growth in tier 1 REC supply through 2030. A delay to projects expected online between 2023 and 2026 could increase spot REC pricing in the period.
- Notably, if there is a delay in the 700 MW Revolution Wind, expected online for 2024–25, the cumulative balance could approach zero. With this project contracted with both Connecticut and Rhode Island, Rhode Island utilities could find themselves short RECs and seeing REC prices reach near its high tier 1 ACP rate (projected to be roughly \$60/MWh).

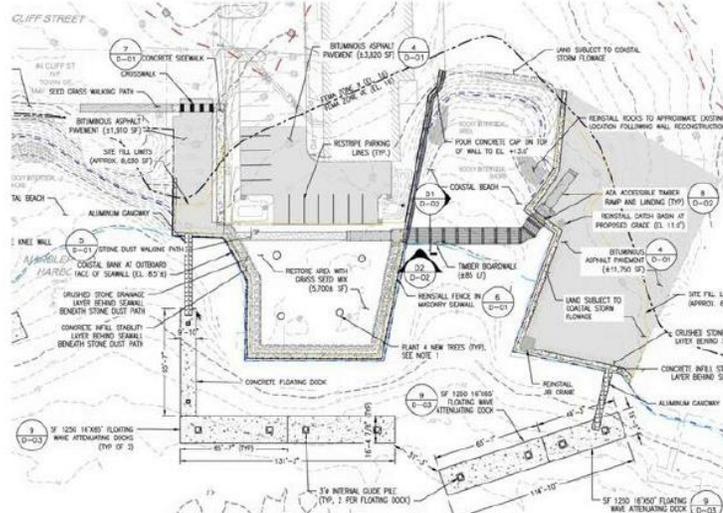
REC Revenue Pricing Assumptions	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046		
S&P Global	\$ 36.00	\$ 36.00	\$ 28.00	\$ 5.00	\$ 5.00	\$ 5.00	\$ 5.00	\$ 5.00	\$ 5.00	\$ 5.00	\$ 5.00	\$ 5.00	\$ 5.00	\$ 5.00	\$ 5.00	\$ 5.00	\$ 5.00	\$ 5.00	\$ 5.00	\$ 5.00	\$ 5.00	\$ 5.00	\$ 5.00	\$ 5.00	
Soltec	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00



Mhd Application to Mass EPA

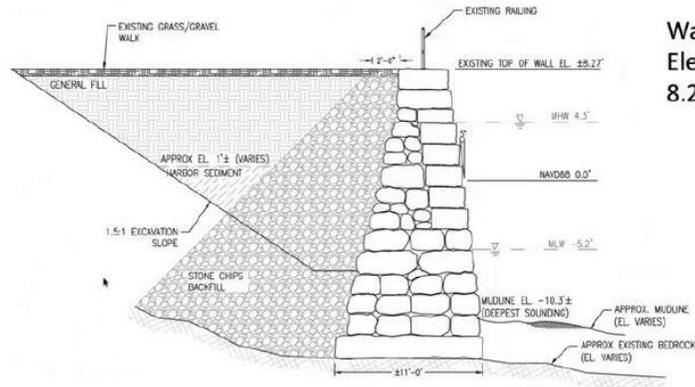


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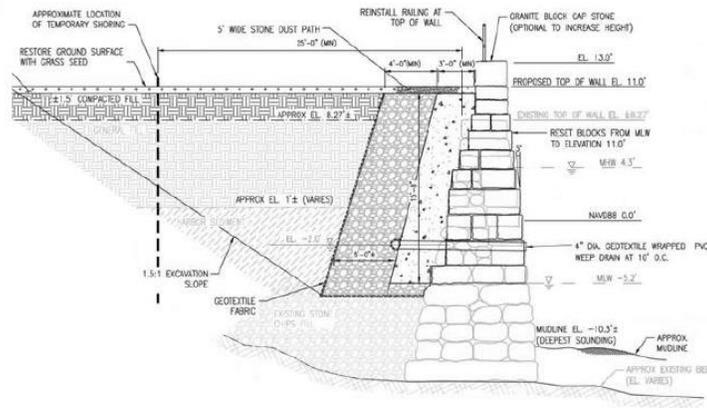


Wall Top Elevation 8.27 feet

HAMMOND PARK EXISTING SEAWALL SECTION B1



Mhd Application to Mass EPA



Wall Top Elevation 11.0 feet w/ option to 13.0 feet

HAMMOND PARK PROPOSED SEAWALL SECTION B2



GM Quick Updates

- Anticipate a PPA rate reduction starting in June
- Bessom St. entry to Village 13 update – abutter easement OK
- Utility Battery siting- Vine St/Rec & Parks space not an option
- Union Contract update 2023-26 – completed negotiations
- APPA 2022 Certificate of Excellence in Reliability recipient
 - SAIDI - the average duration (in minutes) of an interruption per customer served by the utility in 2022