

# Light Commission 7/26 meeting minutes

To: Light Commission: Commissioners  
Light Department: J. Kowalik, General Manager, M. Baret, Business Manager

From: Jean-Jacques Yarmoff, Secretary

Date: July 27, 2022

Re: Commission Meeting July 26, 2022: minutes

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A quorum being present, Light Commission Chair Mike Hull opened the meeting at 4:31 pm, the meeting being held both in person and with remote access available to the public.

**Participated in meeting:**

Commissioners: Frechette, Hull, Johnson, Wolf and Yarmoff;  
Light Department: General Manager Joe Kowalik and Business Manager Matt Barrett.  
Invited: Mike Barrett, PLM Electric Power Engineering.

**Village 13 Substation Upgrade Project**

The General Manager explained the necessity of the upgrade to the Village 13 substation, slides below.

The current equipment is well past its rated design life, and critical components (circuit breakers, control wiring, CTs and VTs) are in poor condition. The transformers themselves show aging and deterioration expected in 50+ year-old units. Further, the current equipment will not be able to meet anticipated increased load and does not allow behind-the-meter, utility-scale battery integration to shave the peak. The new equipment proposed will: – allow additional feeder lines into the system as well as additional circuits downstream from the station; – be safer to maintain and reduce operator exposure to arc flashes; – allow a SCADA computer system for control and data acquisition. The new equipment will allow to supply 13 kV regulated load to the circuits, potentially enabling 13 kV distribution rather than the current 4kV distribution after regulation by the substations and allow to meet expected load increase.

The project completion is anticipated for the summer of 2024, subject to timely delivery of equipment. Procurement of the equipment is occurring in two phases: a request for bids for the switchgear components was published in June, and the responses were just reviewed; a request for bids for the transformers will be issued in September. Switchgear delivery is expected 11/23, transformer delivery expected 4/24 and substation upgrade completion expected 8/24. As the installation of the new switchgear and transformers are in the same basic footprint as the current equipment, careful phasing of each installation is required.

The budget for the upgrade, taking into account the result of the recommended bid was presented.

**Discussion:** It should be noted that the scope of the project is different from that put to bid in 2020: it gives more flexibility to handle future growth in load, allows more circuits, with potentially direct distribution at a higher voltage: it is not like-for-like replacement. While the bid came in at a higher price than anticipated, this is a reflection of market conditions and material price increases for metals and freight. Delivery times have also increased substantially compared to the bids received in March 2020 reflecting long order lists for manufacturers. Putting the switchgear to bid again would probably not lead to receiving additional offers (there are very few manufacturers for this type of gear) or more competitive offers. It would result in additional delays, especially if manufacturing slots were lost.

The transformers are monitored regularly. Loss of one transformer is not imminent but cannot be excluded. In such a situation, the other transformer should be able to carry the normal load needed by the town, but may not be able to do so in a situation of high demand: the diesel generator might need to be run. The 13 kV switchgear, over 50 years old, is also showing its age, its failure would also have the potential to cause significant outages. In a worst case scenario, it might be possible to cobble together an emergency replacement system as 23 to 13 kV are fairly standard voltages.

It is important for the project to advance as promptly as appropriate.

#### **Vote # 2022-26**

The General Manager asked the Commission's approval with a motion to accept the bid from Myers Controlled Power for the new Village 13 switchgear for \$4,347,292, subject to MMLD receiving satisfactory answers to the remaining bid response questions.

Motion moved by Commissioner Wolf, seconded by Commissioner Yarmoff. **Unanimous.**

#### **Approval of 7/12 meeting minutes**

**Vote # 2022-27** Motion was moved by Commissioner Wolf, seconded by Commissioner Frechette to approve the minutes of the June 7, 2022 meeting. **Unanimous.**

#### **Rate structure change discussion**

**Low-income residents.** Commissioner Yarmoff reviewed the impact of the rate structure change on low-income residents. Existing data<sup>1</sup> points to a clear correlation between income level and energy consumption. If this is also the case in Marblehead (and we have no data that shows otherwise), the larger fixed charge will result in larger bills for lower-income residents while higher income residents would see their bill decrease. While overall, the proposed change will bring no change to the average customer, and the change effect will be small for most customers, it will be largest for people with the smallest consumption and not insignificant for people who may already be facing financial hardship.

MMLD does not have a low-income rate. The "Neighbors help neighbors" program was designed for the temporary Covid-related job losses that we saw at the beginning of the pandemic, it is not adapted or funded to alleviate possible effect of this permanent change. A possible "solidarity program" was proposed, where low income residents could be charged only the costs of production related to their use, see below page 7.

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<sup>1</sup> "The economics of fixed cost recovery by utilities", S. Borenstein, The Electricity Journal 29 (2016) 5–12

The General Manager mentioned that we are constrained by Chapter 164 of Massachusetts General Law, section 58, which states: "No price in said schedules shall, without the written consent of the department, be fixed at less than production cost ..." Any scheme that we propose that might need an approval will delay implementation and may not be accepted. Changes within the scope of MGL Chap. 164.58 are declarations, rather than changes requiring prior authorization.

The General Manager was encouraged to evaluate a possible low-income rate, similar to the "solidarity program" proposed or a rate program with any other structure, or any other type of program that might alleviate possible impact of the rate structure change for low-income residents, before we communicate about the changes to the rate structure.

### ***Base charge determination / solar feed-in tariff***

A discussion took place about the impact investment levels may have on the base charge. With the planned upgrade to the Village street station, the assumptions used by UFS are now out of date. UFS will revise the schedule of slides 10 and 12 of 7/12 in light of the new numbers shown in slide 8 p6 below.

UFS will also study the feed-in tariff for residents with solar installations: since the new base charge should now cover all the fixed costs of the infrastructure, is the differential between the feed-in tariff and the energy rate still justified, and if so, what should the differential be?

Chairman Hull left the meeting at 6:07. Vice-Chair Wolf continued to moderate the meeting.

It would also be useful to understand the impact of the rate structure change under the scenario where the demand increases substantially. Would future energy price increases not be necessary in such a scenario?

### **Sustainability Working Group**

A motion was proposed to create a Sustainability Working Group to develop a formal sustainability policy, including a decarbonization timeline, a funding mechanism for possible sustainability initiatives and develop recommendations on performance measures for the Department (KPI).

It was noted that J. Kowalik, when he was a Commissioner, participated in a committee of the Commission with similar remit.

**Vote # 2022-28** Motion was moved by Commissioner Frechette, seconded by Commissioner Yarmoff to create a Sustainability Committee. **Unanimous.**

Commissioners Frechette and Wolf and General Manager Kowalik will be initial members. They will decide about the opportunity to have rotating members from within the Commission, to invite additional members, from the Department or from the general public as appropriate and report back to the full Commission.

The committee will hold a first meeting on Tuesday August 9, at 4:30 pm, in the MMLD conference room, 80 Commercial Street.

With the establishment of this group, there are currently two operational Working Groups of the Commission: a Sustainability Working Group and a Strategic Plan Working Group.

### **Procedure for filling a vacant Commission seat**

MGL Chapter 41, Section 11 defines how a vacant seat on a board will be filled. A detailed process has been [codified](#) by Amherst and is shown in appendix, p8. A similar written policy was not found for Marblehead (which does not mean such a policy does not exist). The Amherst process is very similar to the process that was implemented in Marblehead at several occasions in the last few years.

The immediate next step is for the Light Commission to officially notify the Select Board in writing, within 30 days of the event, that a position is vacant, *i.e.* before August 12. The Select Board will announce the vacancy and advertise it, presumably by posting in Abbot Hall and on the Town website for at least a week, before scheduling a vote to appoint a new Commissioner at a joint meeting of the Select Board and the Light Commission.

Vice-Chair Wolf will contact Select Board Chair Grader to verify the process has been initiated, or to initiate the process and notify the Select Board in writing as the case may be, confirm that members of the Commission or of the Board can participate remotely as per the remote meetings law that has been extended to March 31, 2023, and fix a date for a vote, taking into account the fact that members of the Commission and of the Select Board might not be available during certain periods of August.

### **Goals and objectives of the General Manager**

Goals and objectives have been proposed at the June meeting. The General Manager will propose comments. Goals and objectives should reflect some of the major operational endeavors of the Department, including the two major initiatives that have been discussed at the last two meetings, but should also consider broader strategic and organizational goals of MMLD.

The Commission will hold a discussion and vote on the finalized Goals and Objectives at the next meeting.

### **Interconnection permits**

There is some urgency to address the current ban on interconnection of batteries as – there will be a step down in federal subsidies at the end of the calendar year and – several residents are installing solar equipment and are anticipating to install a residential battery system.

For a residential battery to be approved, both the utility side and the residential electricity side have to work together, which are the purview of MMLD and of the Building Department, respectively. The current position is that MMLD will allow the connection of residential batteries that can be part of the Connected Home program, after a review by the Building Department, the Fire Department and MMLD to ensure all parties are on the same page. The General Manager will update the Commission at the next meeting on progress on this issue.

### **Time of Use**

The Department is currently doing a deep-dive to assess whether our meters and systems have the capabilities necessary to implement a ToU rate. This should be completed by the next meeting.

Motion to adjourn the meeting was moved and unanimously adopted at 7:05 pm.

## Slides presented by the General Manager



### MMLD Board Meeting Village 13 Substation Upgrade Project July 26, 2022

Joe Kowalik, General Manager  
[www.marbleheadelectric.com](http://www.marbleheadelectric.com)  
jkowalik@mhdld.com



### Outline

1. Project Rationale....Why?
2. Operating condition of current substation
3. Key Feature Comparison – current vs new
4. Project budget review
5. MMLD capital improvement fund review (Depreciation Acct)
6. Schedule- Switchgear bid status
7. Bid status- Request Board approval to award contract to Myers Controlled Power, LLC. (price quote is valid until Aug 12).



### Why is the Village 13 upgrade needed?

- Current substation is 10 years beyond its rated design life
- Testing of components show expected wear from long-life use
- The current substation will not be able to meet the Town's anticipated increased electric load, created by EV charging and home heat pumps.
- The current substation does not support MMLD's desire to participate in behind-the-meter peak shaving strategies, to lower capacity and transmission expenses. i.e. utility battery



### Current Substation Operation Condition

- **Switchgear status** – UPG has raised concerns with:
  - Condition of circuit breakers
  - Poor condition of existing control wiring
  - Concern with existing relaying and spare parts availability
- **Transformer Status** – UPG has raised concerns with:
  - General condition with rusting and weather damage to control wiring
  - Oil tests indicate relatively normal for 50+ year old units, with a fair amount of aging and deterioration
- **23 kV Outdoor Substation Status** – UPG has raised concerns with:
  - Poor condition of 23 kV oil circuit breakers
  - Poor condition of CTs, VTs and associated wiring on the 23 kV structure



## Key Feature Comparison (1 of 2)

Village 13 Substation Upgrade	Existing	New
Year of Installation	1969 (40 year design lifespan)	2023
Substation design redundancy level	N-1	N-1
# of 23 kV Supply lines	2 - from Salem Railyard substation (NGrid)	4 possible: 2 from Salem & 2 TBD
Salem 23 kV Supply line - rated capacity (each)	32 MVA	32 MVA
Transformer capacity (each -w/o fan, w/ fan)	2 - 15/20 MVA	2- 18/24/30 MVA
Voltage Stepdown	23 kV to 13 kV	same
23 kV Substation	Outdoor Open Bus Structure 4 breakers total: 2-V13 transformers; 2- V5 transformers	IEEE Compliant Metalclad Switchgear 8 total: 2 incoming lines from Salem; 2-for V13 transformers; 2-for V5 transformers; 2-for Future new incoming supply
13 kV Substation	4 circuits - supply to Clifton, Commercial, and Beacon substations	8 circuits - 5 for supply to Clifton, Commercial, and Beacon; 1 for battery connection; 2 for new dedicated 13 kV distribution circuits



## Key Feature Comparison (2 of 2)

Village 13 Substation Upgrade	Existing	New
Switchgear - Employee safety	All controls on switchgear cabinets and <i>slower old protective relaying requires explosion suits to protect against higher arc flash levels</i>	<i>Remote operator controls and high speed protective relaying reduce operator exposure to arc flash</i>
Switchgear Breakers - Employee safety	Older electro-mechanical circuit breakers - old partially worn out mechanisms; arc chutes in breakers absorb moisture and require relatively frequent maintenance to maintain operability; <i>personnel required to stand in front of breakers while racking them in and out, leading to arc flash concerns.</i>	modern vacuum interrupter circuit breakers - modern mechanisms easier to maintain; no moisture problems with interrupters, <i>design includes remote racking to protect operators during switching and maintenance .</i>
Supervisory Control and Data Acquisition computer system capable? (SCADA system)	No	Yes



## Village 13 Upgrade - Budget review

Cost Category	Cost \$	Vendor	Status	Bid	Expenditures
Manufacture New Switchgear	\$4,347,292	Myer Control Products	mostly firm bid	2022	2022/2023
Manufacturer New Transformers (2)	\$1,700,000	TBD	Estimate	2022	2023/2024
Site Construction Contract	\$1,000,000	TBD	Estimate	2023	2023/2024
Testing and Commissioning	\$90,000	UPG	Estimate	2023	2023/2024
Engineering/Site Investigation	\$275,000	PLM	Estimate		2022 - 2024
Contingency	\$125,000		Estimate		
Make Ready Best ROW access option	\$50,000	?	Estimate	2022	2022
Make Ready Tioga Way storage area	\$150,000	?	Estimate	2022	2022
subtotal	\$7,737,292				
Utility Scale battery	\$0	?	Execute a \$0 payment shared savings option, not purchase	2024-25	2024-2025
Upgrade Clifton substation			Specifications tbd	2025	2025-2026
Spec & Install substation-level SCADA		?	Justification tbd	2025	2025
subtotal	\$0				
Total:	\$7,737,292				



## MMLD Capital Improvement Account (Depreciation Account)

	2017	2018	2019	2020	2021	2022	2023	2024
Beginning Balance	\$6,949,454	\$7,318,649	\$6,176,017	\$6,671,639	\$8,085,153	\$9,614,061	\$7,157,731	\$3,778,231
Contributions \$	\$1,519,510	\$1,526,383	\$1,180,530	\$2,043,055	\$2,061,473	\$1,249,670	\$2,102,500	\$2,130,000
YE Transfer	\$1,187,000	\$552,000	\$0	\$0	\$0	\$0	\$0	\$0
Contribution %	5%	5%	3%	5%	5%	3%	5%	5%
Expenditure \$	-\$6,572,741	-\$3,186,520	-\$462,175	-\$455,891	-\$242,768	-\$3,406,000	-\$5,182,000	-\$3,350,000
Payroll Transfers	-\$281,711	-\$249,635	-\$318,150	-\$208,409	-\$315,723	-\$300,000	-\$300,000	-\$300,000
Interest	\$17,137	\$36,723	\$53,719	\$34,758	\$9,981	\$0	\$0	\$0
Building Bond	\$4,500,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ocean Ave Reimb	\$0	\$178,417	\$30,829	\$0	\$0	\$0	\$0	\$0
Fema Reimb	\$0	\$0	\$10,869	\$0	\$0	\$0	\$0	\$0
Bell Transformer	\$0	\$0	\$0	\$0	\$15,945	\$0	\$0	\$0
Year-End Balance	\$7,318,649	\$6,176,017	\$6,671,639	\$8,085,153	\$9,614,061	\$7,157,731	\$3,778,231	\$2,258,231
						Projected 2022 Balance \$	\$7,157,731	



## Upgrade Schedule

- Switchgear Procurement – 7/2022
- Switchgear Delivery – 11/2023
- Transformer Procurement – 9/2022
- Transformer Delivery – 4/2024
- Site Construction – 4/2023 through 7/2024
- Substation Upgrade complete – 8/2024



## Bid status & Motion for Vote Request

- The Myers bid stated their pricing is subject to change after 30 days, Friday, August 12, 2022
- We would like more clarity on the price-change escalators included in the bid, for transportation and metals.
- Motion: ***To accept the bid from Myers Controlled Power for the new Village 13 switchgear for \$4,347,292., subject to MMLD receiving satisfactory answers to our remaining bid response questions.***

## Discussion of Rate Structure Change

*Example of a possible Solidarity program.*

- Residents under a certain income level (*e.g.* 3x poverty level) would have the automatic right to request a lower base charge than the standard base charge.
- The lower base charge would cover the resident-specific fixed charge (or about 30% of the proposed fixed charge).
- The remaining 70% of the charge would be covered by a new “solidarity fund” (SF).
- The SF funds could come from a very small SF surcharge on every resident fixed charge.
- Rate payers can opt out of the SF surcharge.

### *Impact - Discussion*

- This mechanism would allow to decrease the electric bills of Marblehead low-income residents from their current levels, and avoid increase of the bills of low users with the proposed change.
- Any resident could opt-out of the solidarity charge, for whatever reason, including financial difficulty.
- As the price of the electricity for the low-income residents in this program would be at the production costs (fixed charge directly attributable to the resident + standard energy costs), the proposed low-income rate should not fall under the prior authorization of DPU (MGL 164, Sec. 58) and could be implemented under the same time-line as the proposed rate structure changes.

It should be noted that some other Municipal Light Departments already have a low income program.

## Appendix: Amherst Select Board policy for Filling Elected Board Vacancies

### Select Board Policy: Filling Elected Board Vacancies

*Approved 2/10/14*

When there is a vacancy on an elected board or committee, the Select Board has an opportunity to fill that seat per Massachusetts General Law Ch. 41, §11. Town Counsel has confirmed that whether or not to fill a vacancy is at the Select Board's discretion, with proximity to a Town election being a common reason to leave a seat unfilled. The Select Board should consider the preference of the affected body to fill the seat or leave it vacant, but the final decision rests with the Select Board. If the seat is to be filled, it must be done in accordance with MGL Ch. 41, §11:

**MGL Chapter 41, Section 11:** As used in this section, the term "vacancy" includes a failure to elect. If a vacancy occurs in any town office, other than the office of selectman, town clerk, treasurer, collector of taxes or auditor, the selectmen shall in writing appoint a person to fill such vacancy. If there is a vacancy in a board consisting of two or more members, except a board whose members have been elected by proportional representation under chapter fifty-four A, the remaining members shall give written notice thereof, within one month of said vacancy, to the selectmen, who, with the remaining member or members of such board, shall, after one week's notice, fill such vacancy by roll call vote. The selectmen shall fill such vacancy if such board fails to give said notice within the time herein specified. A majority of the votes of the officers entitled to vote shall be necessary to such election. The person so appointed or elected shall be a registered voter of the town and shall perform the duties of the office until the next annual meeting or until another is qualified.

#### The Process:

Current practice successfully used by the Select Board entails the following, with any details tweaked as necessary or appropriate (e.g., changing speaking time allotments, etc.):

- Select Board announces vacancy and plan to fill it, providing at least one-week notice, but ideally more, to allow adequate time for people to consider applying.
- The Select Board Chair or Chair's designee will arrange to post a News item about the vacancy and election on the Town web site. (*Sample text provided below.*)
- Candidates submit Letters of Interest to the Select Board office, by e-mail or regular mail, which are then distributed to all Select Board members and members of the other Board. Resumes/CVs are not requested, and can complicate the public document packet posting.
- Deadline for Letters of Interest is 4:00 p.m. on the Thursday prior to the Monday Select Board meeting at which the election will be held.
- On the Friday prior to the Monday Select Board meeting, the Select Board Chair or Chair's designee provides all candidates, all members of the other Board, and all Select Board members with the information in bullet points below (or as amended) so all are aware of the how election will be conducted.

*(more)*

- At election meeting, each candidate makes a 2-minute opening statement.
- Each Select Board member and member of the other Board has opportunity to ask the panel of candidates one question (same question to all candidates) alternating between members of both Boards to the degree possible; no one is required to ask a question.
- The order for answering questions rotates among the candidates, so the same person is not always “first” or “last.”
- Candidates have two minutes to answer each question.
- Candidates have one minute each for closing statements.
- Voting will be by roll call vote. The Select Board Chair alternates between members of both Boards, asking each their first choice.
- The winning candidate requires a majority of votes of the remaining filled seats on both Boards; absences do not affect this requirement.

**Sample text for web site News item announcing election to fill vacancy:**

A vacancy on the [*name of board*] will be filled on [*date*] at a joint meeting of the Select Board and the remaining members of the [*name of board*]. Interested candidates must submit a Letter of Interest to the Select Board office by 4:00 p.m. on Thursday, [*date*].

Letters of Interest may be submitted by email to [selectboard@amherstma.gov](mailto:selectboard@amherstma.gov) or via hard copy to Select Board, Town Hall, 4 Boltwood Ave. Amherst MA 01002.

Please include a summary of your reasons for wishing to serve on the [*name of board*], and your qualifications and experience. All submissions will be distributed to Select Board and [*name of board*] members in advance of the meeting, and will be available to the public on the Town web site in the Select Board’s packet materials for the [*date*] meeting. Certain personal information will be redacted as necessary.

This election will take place at [*time*], during the regularly scheduled Select Board meeting in the Town Room on the second floor of Town Hall, and will be broadcast live by Amherst Media on channel 17.

Vacancies in elected Town-wide office are governed by MGL Chapter 41 Section 11. A roll call vote of both bodies is required, and the winning candidate must receive a majority of votes of the remaining filled seats on both boards; absences do not affect that requirement. In this case, a minimum of [*number*] votes is required for election.

The person elected on [*date*] will serve until the next Annual Town Election, to be held on [*date*] and has the option to seek election on the Town ballot through the standard nomination process.

Questions? Please contact [*name*] in the Select Board/Town Manager’s Office at 259-3001 or [*e-mail address*].