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John M. Driscoll, *General Manager*

### **Light Commissioners' Meeting September 18, 2018**

Members present were: Chairman Dana Blais  
Clerk/Secretary Chris Stewart  
Member Gregg Edwards

Employees present were: General Manager (GM) John Driscoll  
Light Superintendent (LS) Thomas Berry  
Business Manager (BM) Jennifer Belliveau

The meeting was called to order by Dana. (18:01)

The agenda was approved on a motion from Gregg, seconded by Chris, 3-0 in favor.

The minutes of August 7, 2018 were approved on a motion from Gregg, seconded by Chris, 3-0 in favor.

#### **Old Business:**

The GM updated the Board on TMLWP's Battery Storage Proposal status. Matt Ide from MMWEC attended this meeting to inform the Board about financing for the proposed unit. The GM had handouts for the Board on the most recent pro forma. The GM laid out for the Board the cash balances on the Light Plant's various accounts and trusts to justify paying for this new project as of August 31, 2018:

Depreciation Cash Account	\$115,000 (\$270,000 by December 31, 2018)
Rate Stabilization Trust	\$337,000 (un-restricted)
Reserve Trust	\$1,165,000
Seabrook I Project 6 Surplus Funds	\$267,549

The GM told the Board that we had \$566,211 in rate stabilization PLUS \$520,488 in Working Capital. Because the Light Plant still owed MMWEC roughly \$750,000 in non-PSA power bills we could only have access to a portion of the \$566,211 and not the entire amount. Dana asked how much would be due to NEC and when would it be due if the Board were to vote tonight to proceed with this battery storage project with MMWEC financing. The GM stated that these funds would likely be available by mid-December 2018 but in the interim the Light Plant would utilize funds from one of our other accounts/trusts (listed above) to pay any project bills. He added that any milestone payment schedule between the TMLWP and NEC could be negotiated, but as it stood right now, once the Light Plant had signed the supply contract with NEC there would soon be an invoice on the way for 25% of the total battery storage equipment cost, \$1,255,350. As it stood right now this invoice would be for \$313,838. Matt Ide said that the interest rate on the 10-year note for the \$900,000 which the TMLWP intended to borrow would be 3.50%-3.75% if we closed this loan by November 1, 2018. After this point he felt that the Fed would likely begin to raise the base interest rate on loans in response to the changes in the financial markets in both fixed income and equities over the last 2 years. The GM stated that then new

pro forma documents would have to be produced to reflect these increased project costs and the payback term would be pushed out over the 5.8-year figure we had now. Dana, Gregg and the GM had all attended the 2018 Annual NEPPA Conference in North Falmouth, MA, and NEC had an area set up during the vendor exhibition portions of the conference. They had a conversation with Doug Alderton from NEC on Templeton's prospective battery storage project (the GM had been working with Doug A for almost a year on this already), and Gregg had asked him on some budgetary pricing on a few smaller units. At present the Light Plant was looking at a 1.5-MVA/3.1-MWH GSS (Grid Storage Solution), and Gregg asked to see the same type of pro forma documents produced by the GM/Doug Alderton on three other systems; a 2-MWH GSS, a 1.5-MWH GSS and a smaller 0.51-MWH DSS (Distribution Storage Solution) that would be installed at a customer's site and jointly owned and operated. So, the GM had, with the assistance of Doug, prepared three additional pro forma documents for these three new scenarios to compare to the initial one, at Gregg's request. At the meeting he distributed both the long forms of all four (4) pro forma documents along with a short form summary table for discussion purposes:

<b>System Size, Type</b>	<b>1.5/3.1 GSS</b>	<b>1.6/2.0 GSS</b>	<b>0.8/1.5 GSS</b>	<b>0.28/0.51 DSS</b>
Installation Cost	\$1,858,068	\$1,590,166	\$1,449,354	\$312,428
Per KW	\$1,239	\$994	\$1,811	\$1,114
Per KWH	\$599	\$795	\$966	\$613
15-Year Net Revenue	\$1,441,832	\$522,085	\$237,615	\$50,272
15-Year Net Positive Value	\$887,233	\$223,101	\$20,941	(\$24,029)
Return-on-Investment	12.2%	5.5%	2.8%	1.9%
Payback Years	5.8	7.6	8.7	5.1

The GM told the Board that it was obvious the initial 1.5/3.1 GSS was the best fit for Templeton, both from a size standpoint as it related to our 3.050 MW solar array AND our 1.650 MW wind turbine assets behind-the-meter, and from a cost/benefit analysis standpoint. Matt Ide said that MMWEC currently has a \$30,000,000 line of credit thru Bank of America available for short-term project financing until the Templeton loan closes in November 2018. He said that Templeton would be MMWEC's third battery storage project this year behind Ashburnham and Wakefield who were both installing units twice the size of that proposed for Templeton. Ashburnham (7 MW) had a surplus of solar distributed generation behind-the-meter for several hours of the year to compensate for, and Wakefield (46 MW) had to cover their peak loads in the winter months. Matt said that the interest rate on this short-term borrowing is decent enough but not as favorable as the long-term pooled loan financing. The GM stated that this was a non-issue since the TMLWP has plenty of existing capital to cover any project bills till the \$900,000 became available to them. The Agreement between MMWEC and the TMLWP stated that Templeton would be committed to making monthly payments to MMWEC for principal and interest via a rate covenant, i.e., the TMLWP could raise electric rates to cover these loan costs. The GM knew that this would never be necessary due to the amount of capital we had access to thru our own funds and the to-be-leant funds. The GM had distributed the loan documents to the Board this evening and there and a vote would need to be taken to move forward and to grant the GM the ability to sign loan and project documents (like what the Board had voted on for the Water Plant's USDA-funded water storage tank reconstruction project). Matt stated that the loan payment schedule and/or interest rates would be all that may change, depending on the timing of Templeton's loan commit and loan closing. Gregg asked Matt if once bonds are issued what there were for pre-payment restrictions? Matt responded that there were limitations/lack of flexibility with permanent bonds like this one, but a 10-year note such as this has a 5-year call provision. Dana asked the GM how long it would take for the Light Plant to "break even"; the answer was the 5.8 years stated in the pro forma document. Dana asked Matt how would MMWEC be able to fit in Templeton to their large borrowing pool of other MLPs; Matt stated that Templeton has had a \$1M spot reserved for almost a year now. Templeton's getting the needed \$900K would not be an issue. Dana suggested it was time to decide on this battery storage project after months of discussion on it. Gregg said that based on NEC's pricing of the smaller GSS units and DSS unit, they did not seem to fit the TMLWP's needs for capacity and transmission savings. The GM stated that while these smaller

systems (2.0, 1.5, 0.51) presented well at the onset, the NPV analyses showed far less gains than shown for the initial larger system (3.1). The GM brought up the point that the TMLWP intended to pay off its loan obligation for the office building, freeing up roughly \$94,000 annually in depreciation expense, so 2018 was now a better time than ever to take on this new debt for a battery storage system. Dana asked Matt how much a year this debt service would cost us; Matt said that it would depend on what the fixed bond interest rate is closed at. The GM said the pro forma showed an average annual payment of \$111,000 for 2019 thru and including 2028, and \$0 after that. There would be enough electric revenues coming into the Light Plant to cover these new debt service costs, and in the very unlikely instance that there was not, the Light Plant has other reserves to fall back on OR the Purchased Power Cost Adjustment (PPCA) as a last resort. Dana asked the GM what the anticipated savings would be with the 1.5/3.1 GSS; the GM said approximately \$100,000 per year would be saved just on capacity and transmission peak load shedding periods made possible by the battery. He added that while the peak hours are constantly changing, MMWEC has been on top of catching both annual peaks and all but one of the monthly peaks for Sterling since December 2016. Matt said that the TMLWP could not take on new debt directly and there are no options with the Town in the absence of their bond rating. The GM asked Matt if changes to the federal tax code affected tax-exempt matters related to such a project; Matt stated that these changes will not apply in 2018 when this loan closes. Chris also asked the GM how long this project would take to get up and running; the GM said we anticipated delivery of 100% of system components by the end of April 2019 and full commercial operation by the end of May 2019. The contract with NEC has milestones for both parties to meet that would facilitate our meeting the June 1, 2019 deadline (the start of FCA-10). Gregg then asked Matt what the biggest project risk was. Matt said that it was not related to the financing piece of the project, but rather any mechanical defects or limitations in the battery storage system itself and/or unscheduled equipment down time and/or failure of it or its interconnection. The GM added that there will be a performance warranty in place with NEC as a guarantee of only a 1% annual degradation in battery output for 15 years. Further, the risk of a failure with the interconnect system's recloser or transformer(s) was not any greater than any other similar device that the Light Plant has in service today. Matt added that there was also a very slight risk that the battery would not be discharged at the correct time, costing the TMLWP more in capacity/transmission costs. But he reminded the Board of how well MMWEC has done thus far in predicting peak times for their member systems. The GM stated that depending on the Board's comfort level with our own interconnection equipment, it would be easy to have a spare recloser and/or transformer on-site in the event of a failure.

At this time a vote takes place as follows:

*"On a motion by Chris, seconded by Gregg, 3-0 in favor the Board voted that the TMLWP Commission hereby accepts the recommendations of the GM and hereby finds that it is prudent and in the best interest of the TMLWP to finance the Battery Storage Unit; and hereby authorizes the GM, with the advice of Counsel, to execute, accept or deliver or perform obligations for any additional documents or agreements, and take any and all further actions the GM deems may be required to carry out, give effect to, and consummate the transactions contemplated by this vote; and hereby accepts the recommendations of the GM and hereby finds that it is prudent and in the best interests of the TMLWP to finance the Battery Storage Unit through MMWEC under MMWEC's Pooled Loan Program; and hereby authorizes and approves the TMLWP's borrowing of funds through a loan from MMWEC, from time to time, pursuant to MMWEC's Pooled Loan Program for the purposes stated in this vote; and hereby approves the Pooled Loan Program Loan Agreement, to evidence the obligation to repay the loan made by MMWEC to the TMLWP under the Loan Agreement presented to the Commission at this meeting and made part of the record of this meeting; and hereby authorizes the GM to execute and deliver substantially in the form of the Loan Agreement presented to the Commission at this meeting, with such changes and amendments thereto as the GM, with the advice of Counsel, may deem necessary or appropriate; and hereby directs the GM to cause the TMLWP to perform all of its obligations under the Loan Agreement at such time as the GM determines is appropriate to carry out the intent of this vote; and hereby authorizes the GM, with the advice of Counsel, to execute, deliver or perform obligations for*

such further documents, or agreements and take any and all further actions, as the GM deems may reasonably be required to carry out, give effect to and consummate the Loan Agreement.”

Chris – Yes

Gregg – Yes

Dana – Yes

Chris asked about the location at the substation where the battery storage unit would go; the GM said the apparatus would be installed in the pole yard, which is compact. The LS said we can decrease the size of this pole yard by 50% if need be. More will be known once PLM is retained to develop a site plan with actual dimensions on it.

The GM handed the Board a copy of the email and photos from Chris Pera regarding TMLP’s property at 11 ¾ Elm St. Chris apologized for not attending the meeting. He would like our permission to approach the Pizza Barn and American Legion to find the boundary markers that may be under the pavement hoping this will help to finish the survey. The GM said we have not received a bill from him yet, but the pictures that he sent are interesting. He will let Chris know it is OK to speak to those property owners. The Water Superintendent (WS) said we can re-pave areas that Chris will need to dig at when the Water Plant is doing paving work.

The GM informed the Board Seaman Energy, LLC is now offline at the Gardner Landfill site. TMLWP will assist Seaman to pull the items out for them. The LS did an estimate for George Jones on the cost to remove some apparatus on his side of the interconnect property out there. NGRID said that the load-break switch and some other items there belong to Seaman Energy, LLC. The energy from this project was used to contribute to the TMLWP’s percentage of non-emitting energy resources. From 2010 thru and including 2018, Seaman Energy, LLC produced for TMLWP 18,441,283 KWH for \$1,304,928, a rate of \$0.07076 per KWH produced:

Generation Year	KWH Output	CF	Cost	Rate
2010	2,966,507	0.283	\$210,133	\$0.07084
2011	3,445,379	0.246	\$227,494	\$0.06602
2012	2,700,731	0.192	\$182,421	\$0.06755
2013	2,337,781	0.167	\$156,571	\$0.06697
2014	1,880,104	0.134	\$139,006	\$0.07394
2015	1,918,999	0.137	\$142,376	\$0.07419
2016	1,457,207	0.104	\$111,661	\$0.07663
2017	1,250,855	0.089	\$97,567	\$0.07800
2018	483,320	0.059	\$37,699	\$0.07800
Totals:	18,441,283	0.141	\$1,304,928	\$0.07076

The GM had a handout from First Southwest Bank for the TMLWP’s office building general obligation bond final pay off. Mary Carney COULD NOT provide the GM with an exact figure on this, so her suggestion was for the Board to take a vote to pay off the general obligation up to but not exceeding \$325,000.

At this time a vote took place as follows:

“On a motion by Gregg, seconded by Chris, 3-0 in favor the Board voted on a not-to-exceed amount of \$325,000 for the payoff of the TMLWP’s office building general obligation bond.”

Gregg – Yes

Chris – Yes

Dana – Yes

The LS updated the Board with the Templeton Wind Turbine maintenance scheduling. He has been dealing with "MulitGear" and said that they will repair the turbine generator bearings for approximately

\$9,000 and do the gearbox repair later. The GM is hoping to be generating wind power here again by mid-November.

**New Business:**

The GM discussed the S&P Global credit rating for TMLP with the Board. They require a credit rating review every two years. The GM had been on a conference call last week with Scott Sagen from S&P and Matt Ide from MMWEC. The primary concern was the size of our largest electric customer (Seaman Paper Co) on a revenue basis (about 30% of total) and the effects of their leaving Templeton Light. They asked what our margin is with them; the GM said he did not have an exact figure for this as he has not looked at margins since the Light Plant's 2013 cost-of-service study performed by BH Leymaster, Inc. He would get back to Scott at S&P on this matter.

The GM had four (4) handouts tonight:

1. July 2018 Power Supply
2. August 2018 Wind Generation
3. August 2018 Kilowatt-Hour Sales/Revenue
4. September 2018 Retail Electric Rates (TMLP)

At this time a vote took place as follows: (19:21)

*"On a motion by Chris, seconded by Gregg, 3-0 in favor, the Board voted to enter into Executive Session pursuant to MGL Ch 30A Sec 21a to discuss strategy with respect to collective bargaining or litigation if an Open Session would have a detrimental effect on the bargaining or litigating position of the Light Plant and the Chairperson so declares. The Board will re-convene in Open Session following Executive Session only for the purpose of Adjournment."*

*Chris - Aye*

*Gregg - Aye*

*Dana - Aye*

At this time a vote took place as follows: (19:22)

*"On a motion by Dana, seconded by Chris, 3-0 in favor, the Board voted to suspend the Light Meeting until the conclusion of the Water Meeting."*

*Dana - Aye*

*Chris - Aye*

*Gregg - Aye*

At this time a vote took place as follows: (20:24)

*"On a motion by Dana, seconded by Chris, 3-0 in favor, the Board voted to resume the Light Meeting until the conclusion of the Water Meeting."*

*Dana - Aye*

*Chris - Aye*

*Gregg - Aye*

There being no other Open Session business to discuss, on a motion by Chris, seconded by Gregg, 3-0 in favor, the Board voted to Adjourn the Light Meeting. (20:43)

Respectfully Submitted,



John M. Driscoll