

**READING MUNICIPAL  
LIGHT DEPARTMENT**

**BOARD OF COMMISSIONERS**

**REGULAR SESSION**

**NOVEMBER 9, 2017**

APPROVAL OF BOARD MINUTES  
JUNE 15, 2017  
ATTACHMENT 1

PRESENTATION OF  
FISCAL YEAR 2017 AUDIT  
ATTACHMENT 2

**TOWN OF READING, MASSACHUSETTS  
READING MUNICIPAL LIGHT DEPARTMENT**

**Annual Financial Statements**

**For the Year Ended June 30, 2017**

**DRAFT**

# Reading Municipal Light Department

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## INDEPENDENT AUDITORS' REPORT

To the Municipal Light Board  
Town of Reading Municipal Light Department

### **Report on the Financial Statements**

We have audited the accompanying financial statements of the business-type activities and the aggregate remaining fund information of the Town of Reading Municipal Light Department ("the Department") (an enterprise fund of the Town of Reading, Massachusetts), as of and for the year ended June 30, 2017 and the related notes to the financial statements, which collectively comprise the Department's basic financial statements as listed in the Table of Contents.

### **Management's Responsibility for the Financial Statements**

The Department's management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

### **Auditors' Responsibility**

Our responsibility is to express opinions on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies

used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

## Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the business-type activities and the aggregate remaining fund information of the Town of Reading Municipal Light Department as of June 30, 2017, and the respective changes in financial position and, where applicable, cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

## Report on Summarized Comparative Information

We have previously audited the Department's fiscal year 2016 financial statements, and we expressed an unmodified audit opinion on those audited financial statements in our report dated October 20, 2016. In our opinion, the summarized comparative information presented herein as of and for the fiscal year ended June 30, 2016 is consistent, in all material respects, with the audited financial statements from which it has been derived.

## Other Matters

### *Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis and the Pension and OPEB schedules appearing on pages 38 to 42 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the *Governmental Accounting Standards Board*, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with evidence sufficient to express an opinion or provide any assurance.

\_\_\_\_\_, 2017

## **MANAGEMENT'S DISCUSSION AND ANALYSIS**

Within this section of the Town of Reading Municipal Light Department's ("the Department") annual financial report, management provides a narrative discussion and analysis of the Department's financial activities for the year ended June 30, 2017. The Department's performance is discussed and analyzed within the context of the accompanying financial statements and disclosures following this section.

### **A. OVERVIEW OF THE FINANCIAL STATEMENTS**

The basic financial statements include (1) the Proprietary Fund Statements of Net Position, (2) the Proprietary Fund Statements of Revenues, Expenses and Changes in Net Position, (3) the Proprietary Fund Statements of Cash Flows, (4) the Fiduciary Funds Statements of Fiduciary Net Position, (5) the Fiduciary Funds Statements of Changes in Fiduciary Net Position, and (6) Notes to Financial Statements.

**Proprietary funds.** Proprietary fund reporting focuses on the determination of operating income, changes in net position (or cost recovery), financial position, and cash flows. The proprietary fund category includes enterprise funds.

Enterprise funds are used to report activity for which a fee is charged to external users, and must be used when one of the following criteria are met: (1) activity is financed with debt that is secured solely by a pledge of the net revenues from fees and charges, (2) laws or regulations require the activity's costs of providing services be recovered with fees and charges, and (3) the pricing policies of the activity establish fees and charges designed to recover its costs, including capital costs such as depreciation or debt service. The primary focus on these criteria is on fees charged to external users.

**Notes to financial statements.** The notes provide additional information that is essential to a full understanding of the data provided in the government-wide and fund financial statements.

**Other information.** In addition to the basic financial statements and accompanying notes, this report also presents certain required supplementary information which is required to be disclosed by accounting principles generally accepted in the United States of America.

### **B. FINANCIAL HIGHLIGHTS**

The Proprietary Fund Statements of Net Position is designed to indicate our financial position at a specific point in time. At June 30, 2017, it shows our net worth of \$109,368,059 which comprises \$76,110,937 invested in capital assets, \$4,951,661 and \$5,683,014 restricted for depreciation fund and the pension trust, and \$22,622,447 unrestricted.



The Proprietary Fund Statements of Revenues, Expenses and Changes in Net Position summarize our operating results and reveal how much, if any, of a profit was earned for the year. As discussed in more detail below, our net profit for the year ended June 30, 2017 was \$4,472,650.

The Proprietary Fund Statements of Cash Flows provide information about cash receipts, cash payments, investing, and financing activities during the accounting period. A review of our Proprietary Fund Statements of Cash Flows indicates that cash receipts from operating activities adequately covered our operating expenses in fiscal year 2017.

The following is a summary of the Department's financial data for the current and prior fiscal years (in thousands).

### Summary of Net Position

	<u>2017</u>	<u>2016</u>
Current assets	\$ 26,614	\$ 23,903
Noncurrent assets	105,466	101,001
Deferred outflows of resources	4,135	4,838
Total assets and deferred outflows of resources	<u>\$ 136,215</u>	<u>\$ 129,742</u>
Current liabilities	\$ 9,791	\$ 8,245
Noncurrent liabilities	16,341	15,719
Deferred inflows of resources	715	883
Total liabilities and deferred inflows of resources	<u>26,847</u>	<u>24,847</u>
Net position:		
Net investment in capital assets	76,111	72,202
Restricted for depreciation fund	4,952	4,495
Restricted for pension trust	5,683	5,610
Unrestricted	<u>22,622</u>	<u>22,588</u>
Total net position	<u>109,368</u>	<u>104,895</u>
Total liabilities and net position	<u>\$ 136,215</u>	<u>\$ 129,742</u>

### Summary of Changes in Net Position

	<u>2017</u>	<u>2016</u>
Operating revenues	\$ 92,617	\$ 88,736
Operating expenses	<u>(87,128)</u>	<u>(84,200)</u>
Operating income	5,489	4,536
Non-operating revenues (expenses)	<u>(1,016)</u>	<u>(1,096)</u>
Change in net position	4,473	3,440
Beginning net position, as restated	<u>104,895</u>	<u>101,455</u>
Ending net position	<u>\$ 109,368</u>	<u>\$ 104,895</u>

Electric sales (net of discounts) were \$91,822,764 in fiscal year 2017, an increase of 3.93% from the prior year. In fiscal year 2017, kilowatt hours sold decreased by 0.09% to 675,536,970, compared to 676,128,060 in fiscal year 2016. In fiscal year 2017, customers received charges of \$724,692 in purchase power fuel charge adjustments, compared to credits of \$63,410 in fiscal year 2016.

In fiscal year 2015, the Department restructured its rates and began billing customers purchase power capacity and transmission costs separately from the base rate. In fiscal year 2017, customers were charged purchase power capacity and transmission adjustments of \$69,300.

Operating expenses totaled \$87,127,810 in fiscal year 2017, an overall increase of 3.48% from fiscal year 2016. The largest portion of this total, \$64,703,438, was for purchase power costs. Other operating expenses included \$16,889,921 for general operating and maintenance costs, \$1,433,143 for voluntary payments to Towns, and depreciation expense of \$4,101,308. In fiscal year 2017, the depreciation rate was 3.0%.

In fiscal year 2017, the Department contributed \$1,600,000 to the Reading Municipal Light Department Employees' Retirement Trust ("Pension Trust") and the Pension Trust contributed \$1,579,345 to the Town of Reading Contributory Retirement System on behalf of the Department's employees.

In fiscal year 2017, the Department contributed \$794,319 to the Other Post-Employment Benefits Trust ("OPEB Trust"), which was \$138,068 less than the actuarially determined liability at June 30, 2017. As a result, the Department recognized an OPEB liability at June 30, 2017 in the Statements of Net Position. Additional information on the Department's OPEB contributions can be found in Note 17 on pages 28-32 of this report.

### **C. CAPITAL ASSET AND DEBT ADMINISTRATION**

**Capital assets.** Total investment in land at year end amounted to \$1,265,842; there was no change from the prior year. Total investment in depreciable capital assets at year-end amounted to \$74,845,094 (net of accumulated depreciation), an increase of \$3,908,524 from the prior year. This investment in depreciable capital assets includes structures and improvements, equipment and furnishings, and infrastructure assets.

**Debt and other long-term liabilities.** At the end of the current fiscal year, the Department had no outstanding bonded debt.

Additional information on capital assets and other long-term liabilities can be found in the Notes to Financial Statements.

**REQUESTS FOR INFORMATION**

This financial report is designed to provide a general overview of the Town of Reading Municipal Light Department's finances for all those with an interest in the Department's finances. Questions concerning any of the information provided in this report or requests for additional financial information should be addressed to:

Accounting/Business Manager  
Town of Reading Municipal Light Department  
230 Ash Street  
Reading, Massachusetts 01867

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TOWN OF READING, MASSACHUSETTS  
MUNICIPAL LIGHT DEPARTMENT  
BUSINESS-TYPE PROPRIETARY FUND  
STATEMENTS OF NET POSITION  
JUNE 30, 2017 AND 2016

	<u>2017</u>	<u>2016</u>
<b>ASSETS</b>		
Current:		
Unrestricted cash and short-term investments	\$ 15,522,815	\$ 13,123,605
Receivables, net of allowance for uncollectable	8,761,845	8,203,587
Prepaid expenses	680,703	985,756
Inventory	<u>1,648,675</u>	<u>1,590,329</u>
Total current assets	26,614,038	23,903,277
Noncurrent:		
Restricted cash and short-term investments	26,482,494	26,080,078
Restricted investments	2,659,813	2,691,326
Investment in associated companies	212,428	26,994
Land	1,265,842	1,265,842
Capital assets, net of accumulated depreciation	<u>74,845,094</u>	<u>70,936,570</u>
Total noncurrent assets	105,465,671	101,000,810
<b>DEFERRED OUTFLOWS OF RESOURCES</b>		
Related to pensions	<u>4,135,078</u>	<u>4,838,218</u>
<b>TOTAL ASSETS AND DEFERRED OUTFLOWS OF RESOURCES</b>	<u>136,214,787</u>	<u>129,742,305</u>
<b>LIABILITIES</b>		
Current:		
Accounts payable	7,193,756	5,484,732
Accrued liabilities	565,784	449,404
Customer deposits	1,080,257	901,905
Customer advances for construction	927,303	1,007,142
Current portion of long-term liabilities:		
Other	<u>23,695</u>	<u>401,347</u>
Total current liabilities	9,790,795	8,244,530
Noncurrent:		
Net pension liability	13,076,538	12,862,732
Net OPEB obligation	138,068	-
Other, net of current portion	<u>3,126,439</u>	<u>2,856,462</u>
Total noncurrent liabilities	16,341,045	15,719,194
<b>DEFERRED INFLOWS OF RESOURCES</b>		
Related to pensions	<u>714,888</u>	<u>883,172</u>
<b>TOTAL LIABILITIES AND DEFERRED INFLOWS OF RESOURCES</b>	26,846,728	24,846,896
<b>NET POSITION</b>		
Net investment in capital assets	76,110,937	72,202,413
Restricted for:		
Depreciation fund	4,951,661	4,494,953
Pension trust	5,683,014	5,610,105
Unrestricted	<u>22,622,447</u>	<u>22,587,938</u>
<b>TOTAL NET POSITION</b>	<u>\$ 109,368,059</u>	<u>\$ 104,895,409</u>

The accompanying notes are an integral part of these financial statements.

TOWN OF READING, MASSACHUSETTS  
MUNICIPAL LIGHT DEPARTMENT

BUSINESS-TYPE PROPRIETARY FUND  
STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

FOR THE YEARS ENDED JUNE 30, 2017 AND 2016

	<u>2017</u>	<u>2016</u>
<b>Operating Revenues:</b>		
Electric sales, net of discounts of \$3,648,851 and \$3,294,567 respectively	\$ 91,822,764	\$ 88,353,905
Purchase power adjustments:		
Fuel charge adjustment	724,692	(63,410)
Capacity and transmission adjustment	69,300	445,488
Total Operating Revenues	92,616,756	88,735,983
<b>Operating Expenses:</b>		
Purchase power	64,703,438	63,700,338
Operating Maintenance	14,811,692	12,902,149
Voluntary payments to towns	2,578,229	2,252,540
Depreciation	1,433,143	1,400,347
	4,101,308	3,944,792
Total Operating Expenses	87,127,810	84,200,166
Operating Income	5,488,946	4,535,817
<b>Nonoperating Revenues (Expenses):</b>		
Interest income	271,658	333,497
MMWEC surplus	148,898	250,690
Intergovernmental grants	67,797	125,000
Contributions in aid of construction	335,198	285,921
Return on investment to Town of Reading	(2,384,668)	(2,370,445)
Loss on disposal of capital assets	(44,692)	(85,561)
Other	589,513	365,046
Total Nonoperating Revenues (Expenses), Net	(1,016,296)	(1,095,852)
Change in Net Position	4,472,650	3,439,965
Net Position at Beginning of Year, as restated	104,895,409	101,455,444
Net Position at End of Year	\$ 109,368,059	\$ 104,895,409

The accompanying notes are an integral part of these financial statements.

TOWN OF READING, MASSACHUSETTS  
MUNICIPAL LIGHT DEPARTMENT

BUSINESS-TYPE PROPRIETARY FUND  
STATEMENTS OF CASH FLOWS

FOR THE YEARS ENDED JUNE 30, 2017 AND 2016

	<u>2017</u>	<u>2016</u>
<b><u>Cash Flows From Operating Activities:</u></b>		
Receipts from customers and users	\$ 91,442,858	\$ 87,519,922
Payments to vendors and employees	(80,175,335)	(79,529,184)
Customer purchase power adjustments	<u>793,993</u>	<u>382,077</u>
Net Cash Provided By (Used For) Operating Activities	12,061,516	8,372,815
<b><u>Cash Flows From Noncapital Financing Activities:</u></b>		
Return on investment to Town of Reading	(2,384,668)	(2,370,445)
MMWEC surplus	148,898	250,690
Other	<u>924,710</u>	<u>365,047</u>
Net Cash Provided By (Used For) Noncapital Financing Activities	(1,311,060)	(1,754,708)
<b><u>Cash Flows From Capital and Related Financing Activities:</u></b>		
Acquisition and construction of capital assets	(8,054,525)	(6,316,416)
Contributions in aid of construction	(79,839)	403,289
Intergovernmental revenues	<u>67,797</u>	<u>125,000</u>
Net Cash Provided By (Used For) Capital and Related Financing Activities	(8,066,567)	(5,788,127)
<b><u>Cash Flows From Investing Activities:</u></b>		
Investment income	271,658	333,497
(Increase) decrease in restricted cash and investments	<u>(556,337)</u>	<u>(1,191,734)</u>
Net Cash Provided By (Used For) Investing Activities	(284,679)	(858,237)
Net Change in Unrestricted Cash and Short-Term Investments	2,399,210	(28,257)
Unrestricted Cash and Short-Term Investments, Beginning of Year	<u>13,123,605</u>	<u>13,151,862</u>
Unrestricted Cash and Short-Term Investments, End of Year	<u>\$ 15,522,815</u>	<u>\$ 13,123,605</u>
<b><u>Reconciliation of Operating Income (Loss) to Net Cash:</u></b>		
Operating income	\$ 5,488,946	\$ 4,535,817
Adjustments to reconcile operating income to net cash provided by (used for) operating activities:		
Depreciation expense	4,101,308	3,944,792
Changes in assets, liabilities, and deferred outflows/inflows		
Accounts receivable	(558,258)	(889,528)
Prepaid and other assets	305,054	152,142
Inventory	(58,346)	(9,922)
Deferred outflows - related to pensions	703,140	(4,790,403)
Accounts payable and accrued liabilities	1,717,729	438,515
Due to other postemployment benefits trust	-	(345,382)
Net OPEB obligation	138,068	-
Net pension liability	213,806	4,398,069
Deferred inflows - related to pensions	(168,284)	883,172
Other	<u>178,353</u>	<u>55,543</u>
Net Cash Provided By (Used For) Operating Activities	<u>\$ 12,061,516</u>	<u>\$ 8,372,815</u>

The accompanying notes are an integral part of these financial statements.

TOWN OF READING, MASSACHUSETTS  
MUNICIPAL LIGHT DEPARTMENT

FIDUCIARY FUNDS  
STATEMENTS OF FIDUCIARY NET POSITION

JUNE 30, 2017 AND 2016

	Other Post Employment Benefits Trust Fund	
	<u>2017</u>	<u>2016</u>
<b>ASSETS</b>		
Cash and short-term investments	\$ <u>2,857,150</u>	\$ <u>2,525,843</u>
<b>TOTAL ASSETS</b>	<u>2,857,150</u>	<u>2,525,843</u>
<b>NET POSITION</b>		
Total net position held in trust	\$ <u><u>2,857,150</u></u>	\$ <u><u>2,525,843</u></u>

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The accompanying notes are an integral part of these financial statements.

TOWN OF READING, MASSACHUSETTS  
MUNICIPAL LIGHT DEPARTMENT

FIDUCIARY FUNDS  
STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION

FOR THE YEARS ENDED JUNE 30, 2017 AND 2016

	Other Post Employment Benefits Trust Fund	
	2017	2016
<b>Additions:</b>		
Contributions:		
Employers	\$ 794,319	\$ 308,795
Total Contributions	794,319	308,795
Investment Income (Loss):		
Increase (decrease) in fair value of investments	22,561	13,928
Net investment income (loss)	22,561	13,928
Total additions	816,880	322,723
<b>Deductions:</b>		
Benefit payments to plan members, beneficiaries and other systems	485,573	-
Total deductions	485,573	-
Net increase (decrease)	331,307	322,723
<b>Net position:</b>		
Beginning of Year	2,525,843	2,203,120
End of Year	\$ 2,857,150	\$ 2,525,843

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The accompanying notes are an integral part of these financial statements.



# Town of Reading, Massachusetts Municipal Light Department

## Notes to Financial Statements

### 1. Summary of Significant Accounting Policies

The significant accounting policies of the Town of Reading Municipal Light Department (the Department) (an enterprise fund of the Town of Reading, Massachusetts) are as follows:

- A. Business Activity - The Department purchases electricity for distribution to more than 25,000 customers within the towns of Reading, North Reading, Wilmington, and Lynnfield.
- B. Regulation and Basis of Accounting - Under Massachusetts General Laws, the Department's electric rates are set by the Municipal Light Board. Electric rates, excluding the purchase power fuel charge and the purchase power capacity and transmission charge, cannot be changed more than once every three months. Rate schedules are filed with the Massachusetts Department of Public Utilities (DPU). While the DPU exercises general supervisory authority over the Department, the Department's rates are not subject to DPU approval. The Department's policy is to prepare its financial statements in conformity with generally accepted accounting principles.

The proprietary fund financial statements are reported using the *economic resources measurement* focus and the *accrual basis of accounting*. Under this method, revenues are recognized when earned and expenses are recorded when liabilities are incurred.

Proprietary funds distinguish operating revenues and expenses from non-operating items. Operating revenues and expenses generally result from providing services and producing and delivering goods in connection with a proprietary fund's principal ongoing operations. The principal operating revenues of the Department's proprietary fund are charges to customers for electric sales and services. Operating expenses for the Department's proprietary fund include the cost of sales and services, administrative expenses and depreciation on capital assets. All revenues and expenses not meeting this definition are reported as non-operating revenues and expenses.

- C. Concentrations - The Department operates within the electric utility industry. In 1998, the Commonwealth of Massachusetts enacted energy deregulation legislation that restructured the Commonwealth's electricity industry to foster competition and promote reduced electric rates. Energy deregulation created a separation between the supply and delivery portions of electricity service and enabled consumers to purchase their energy from a retail supplier of their choice. Municipal utilities are not currently subject to this legislation.

- D. Retirement Trust - The Reading Municipal Light Department Employees' Retirement Trust (the "Pension Trust") was established by the Reading Municipal Light Board on December 30, 1966, pursuant to Chapter 64 of the General Laws of the Commonwealth of Massachusetts.

The Pension Trust constitutes the principal instrument of a plan established by the Municipal Light Board to fund the Department's annual required contribution to the Town of Reading Contributory Retirement System (the System), a cost-sharing, multi-employer public employee retirement system.

In accordance with Government Accounting Standards Board Statement 68 (GASB 68), the Retirement Trust was consolidated into the Business-Type Proprietary Fund and is reflected in net position as "restricted for pension trust."

- E. Other Post-Employment Benefits Trust - The Other Post-Employment Benefits Liability Trust Fund (the "OPEB Trust") was established by the Reading Municipal Light Board pursuant to Chapter 32B, Section 20 of the General Laws of the Commonwealth of Massachusetts.

The OPEB Trust constitutes the principal instrument of a plan established by the Municipal Light Board to fund the Department's annual actuarially determined OPEB contribution for future retirees.

- F. Revenues - Revenues are based on rates established by the Department and filed with the DPU. Revenues from sales of electricity are recorded on the basis of bills rendered from monthly meter readings taken on a cycle basis and are stated net of discounts. Recognition is given to the amount of sales to customers which are unbilled at the end of the fiscal period.

- G. Cash and Short-term Investments - For the purposes of the Statements of Cash Flows, the Department considers unrestricted cash on deposit with the Town Treasurer to be cash or short-term investments. For purposes of the Statements of Net Position, both the proprietary funds and fiduciary funds consider unrestricted and restricted investments with original maturities of three months or less to be short-term investments.

- H. Investments - State and local statutes place certain limitations on the nature of deposits and investments available. Deposits in any financial institution may not exceed certain levels within the financial institution. Non-fiduciary fund investments can be made in securities issued or unconditionally guaranteed by the U.S. Government or agencies that have a maturity of one year or less from the date of purchase and repurchase agreements guaranteed by such securities with maturity dates of no more than 90 days from date of purchase.

Investments for the Department and the Pension Trust consist of domestic and foreign fixed income bonds which the Department intends to hold to maturity. These investments are reported at fair market value.

- I. Inventory - Inventory consists of parts and accessories purchased for use in the utility business for construction, operation, and maintenance purposes and is stated at average cost. Meters and transformers are capitalized when purchased.
- J. Capital Assets and Depreciation - Capital assets, which include property, plant, equipment, and utility plant infrastructure, are recorded at historical cost or estimated historical cost when purchased or constructed. Donated capital assets are recorded at estimated fair market value at the date of the donation.

The cost of normal maintenance and repairs that do not add to the value of the asset or materially extend asset lives are not capitalized.

Major outlays for capital assets and improvements are capitalized as they are acquired or constructed. Interest incurred during the construction phase of proprietary fund capital assets is included as part of the capitalized value of the constructed asset. When capital assets are retired, the cost of the retired asset, less accumulated depreciation, salvage value and any cash proceeds, is charged to the Department's unrestricted net position.

Massachusetts General Laws require utility plant in service to be depreciated at a minimum annual rate of 3%. To change this rate, the Department must obtain approval from the DPU. Changes in annual depreciation rates may be made for financial factors relating to cash flow for plant expansion, rather than engineering factors relating to estimates of useful lives.

- K. Accrued Compensated Absences - Employee vacation leave is vested annually but may only be carried forward to the succeeding year with supervisor approval and, if appropriate, within the terms of the applicable Department policy or union contract. Generally, sick leave may accumulate according to union and Department contracts and policy, and is paid upon normal termination at the current rate of pay. The Department's policy is to recognize vacation costs at the time payments are made. The Department records accumulated, unused, vested sick pay as a liability. The amount recorded is the amount to be paid upon normal termination at the current rate of pay.
- L. Long-Term Obligations - The proprietary fund financial statements report long-term debt and other long-term obligations as liabilities in the Statements of Net Position.
- M. Use of Estimates - The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures for contingent assets and liabilities at the date of the financial statements, and the reported amounts of the revenues and expenses during the fiscal year. Actual results could vary from estimates that were used.
- N. Rate of Return - The Department's rates must be set such that earnings attributable to electric operations do not exceed eight percent of the net cost

of plant. The Department's audited financial statements are prepared in accordance with auditing standards generally accepted in the United States of America. To determine the net income subject to the rate of return limitations, the Department performs the following calculation. Using the net income per the audited financial statements, the return on investment to the Town of Reading is added back, the fuel charge adjustment is added or deducted, and miscellaneous debits/credits (i.e., gain/loss on disposal of fixed assets, etc.) are added or deducted, leaving an adjusted net income figure for rate of return purposes. Investment interest income and bond principal payments are then deducted from this figure to determine the net income subject to the rate of return. The net income subject to the rate of return is then subtracted from the allowable eight percent rate of return, which is calculated by adding the book value of net plant and the investment in associated companies multiplied by eight percent. From this calculation, the Municipal Light Board will determine what cash transfers need to be made at the end of the fiscal year.

## 2. Cash and Investments

Total cash and investments as of June 30, 2017 are classified in the accompanying financial statements as follows:

Proprietary Fund:	
Unrestricted cash and short-term investments	\$ 15,522,815
Restricted cash and short-term investments	26,482,494
Restricted investments	2,659,813
Fiduciary Funds:	
Cash and short-term investments - OPEB Trust	<u>2,857,150</u>
Total cash and investments	<u>\$ 47,522,272</u>

Total cash and investments at June 30, 2017 consist of the following:

Cash on hand	\$ 3,500
Deposits with financial institutions	<u>47,518,772</u>
Total cash and investments	<u>\$ 47,522,272</u>

### **Disclosures Relating to Interest Rate Risk**

Interest rate risk is the risk that the fair value of an investment will be adversely affected by changes in market interest rates. Generally, the longer the maturity of an investment, the greater the sensitivity of its fair value to changes in market interest rates. The Department manages its exposure to interest rate risk by purchasing a combination of shorter term and longer-term investments and by timing cash flows from maturities so that a portion of the portfolio is maturing or coming close to maturity evenly over time as necessary to provide the cash flow and liquidity needed for operations.

As of June 30, 2017, the Department (including the Pension Trust and OPEB Trust) held cash and short-term investments in pooled investments with the Massachusetts Municipal Depository Trust (MMDT), FDIC-insured savings accounts, and 90-day FDIC-insured bank certificates of deposit. Because of their immediate liquidity and/or short-term maturity, these funds are classified as cash and short-term investments in the accompanying financial statements and are not considered to be exposed to significant interest rate risk.

As of June 30, 2017, the Department and Pension Trust held investments in domestic and foreign fixed income bonds with varying maturity dates as follows:

	Proprietary Fund	
	<u>Restricted Investments</u>	<u>Maturity Date</u>
<u>Corporate bonds</u>		
AT&T Inc	\$ 433,147	12/01/22
General Electric Cap Corp	429,272	01/09/23
Wells Fargo & Co	422,960	08/15/23
Rabobank Nederland Bank	522,140	11/09/22
Teva Pharmaceut Fin BV	427,700	12/18/22
BNP Paribas	424,594	03/03/23
Total	<u>\$ 2,659,813</u>	

### Disclosures Relating to Credit Risk

Generally, credit risk is the risk that the issuer of an investment will not fulfill its obligation to the holder of the investment. This is measured by the assigning of a rating by a nationally recognized statistical rating organization. As of June 30, 2017, the Department and Pension Trust held investments in domestic and foreign fixed income bonds with varying ratings as follows:

	Proprietary Fund	
<u>Investment Type</u>	<u>Restricted Investments</u>	<u>Moody's Rating</u>
Corporate bonds:		
AT&T Inc	\$ 433,147	BAA1
General Electric Cap Corp	429,272	A1
Wells Fargo & Co	422,960	A3
Rabobank Nederland Bank	522,140	A3
Teva Pharmaceut Fin BV	427,700	BAA2
BNP Paribas	424,594	A1
Total	<u>\$ 2,659,813</u>	

## Concentration of Credit Risk

The Department follows the Town of Reading's investment policy, which does not limit the amount that can be invested in any one issuer beyond that stipulated by Massachusetts General Laws. At June 30, 2017, the Department and Pension Trust investments were held in domestic and foreign fixed income bonds, as detailed in the sections above. Five of the bonds each individually represent approximately 16% of the Department's and System's total investments, while the investment in Rabobank Nederland Bank represents approximately 20%.

## Custodial Credit Risk

Custodial Credit Risk for *deposits* is the risk that, in the event of the failure of a depository financial institution, the Department will not be able to recover its deposits or will not be able to recover collateral securities that are in the possession of an outside party. The custodial credit risk for *investments* is the risk that, in the event of the failure of the counterparty (e.g., broker-dealer) to a transaction, the Department will not be able to recover the value of its investments or collateral securities that are in the possession of another party. Massachusetts General Laws, Chapter 44, Section 55, limits deposits "in a bank or trust company or banking company to an amount not exceeding sixty per cent of the capital and surplus of such bank or trust company or banking company, unless satisfactory security is given to it by such bank or trust company or banking company for such excess." The Department follows the Massachusetts statute as written, as well as the Town of Reading's deposit policy for custodial credit risk.

Because the Department pools its cash and short-term investments with the Town of Reading, and bank accounts are maintained in the name of the Town, the amount of the Department's balance exposed to custodial credit risk at June 30, 2017, cannot be reasonable determined.

As of June 30, 2017, none of the Department or Pension Trust investments were exposed to custodial credit risk because the related securities are registered in the Department's name.

## Fair Value

The Department categorizes its fair value measurements within the fair value hierarchy established by Governmental Accounting Standards Board Statement No. 72 Fair Value Measurement and Application (GASB 72). The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

Description	Fair Value Measurements Using:		
	Quoted prices in active markets for identical assets (Level 1)	Significant observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Investments by fair value level:			
Debt securities			
Corporate bonds	\$ 2,659,813	\$ 2,659,813	\$ -
Total	\$ 2,659,813		

### 3. Restricted Cash and Investments

The Department's proprietary fund restricted cash and investment balances represent the following reserves:

	6/30/17		6/30/16	
	Cash	Investments	Cash	Investments
Depreciation fund	\$ 2,451,661	\$ -	\$ 4,494,953	\$ -
Construction fund	2,500,000	-	1,500,000	-
Deferred fuel reserve	5,841,567	-	5,116,875	-
Deferred energy conservation reserve	602,131	-	717,418	-
Rate stabilization	6,883,542	-	6,822,339	-
Reserve for uncollectible accounts	200,000	-	200,000	-
Sick leave benefits	1,820,228	1,329,907	1,912,146	1,345,663
Hazardous waste fund	750,000	-	150,000	-
Customer deposits	1,080,257	-	901,905	-
Pension trust	4,353,108	1,329,906	4,264,442	1,345,663
Total	\$ 26,482,494	\$ 2,659,813	\$ 26,080,078	\$ 2,691,326

The Department maintains the following reserves:

- Depreciation fund - The Department is normally required to reserve 3.0% of capital assets each year to fund capital improvements.
- Construction fund – This represents additional funds set aside to fund capital expenditures.
- Deferred fuel reserve - The Department transfers the difference between the customers' monthly fuel charge adjustment and actual fuel costs into this account to be used in the event of a sudden increase in fuel costs.
- Deferred energy conservation reserve - This account is used to reserve monies collected from a special energy charge added to customer bills. Customers who undertake measures to conserve and improve energy efficiency can apply for rebates that are paid from this account.
- Rate stabilization - This represents amounts set aside to help stabilize cost increases resulting from fluctuations in purchase power costs.

- Reserve for uncollectible accounts - This account was set up to offset a portion of the Department's bad debt reserve.
- Sick leave benefits - This account is used to offset the Department's actuarially determined compensated absence liability.
- Hazardous waste fund - This reserve was set up by the Board of Commissioners to cover the Department's insurance deductible in the event of a major hazardous materials incident.
- Customer deposits - Customer deposits that are held in escrow.
- Pension trust - The principal instrument of a plan established by the Municipal Light Board to fund the Department's annual required contribution to the Town of Reading Contributory Retirement System (the System), a cost-sharing, multi-employer public employee retirement system.

**4. Accounts Receivable**

Accounts receivable consists of the following at June 30, 2017:

		<b>DRAFT</b>	
Customer Accounts:			
Billed	\$	2,488,551	
Less allowances:			
Uncollectible accounts		(200,000)	
Sales discounts		(98,570)	
Total billed			2,189,981
Unbilled, net			6,118,951
Total customer accounts			<u>8,308,932</u>
Other Accounts:			
Merchandise sales		249,384	
MMWEC surplus		147,193	
Intergovernmental grants		43,056	
Liens and other		13,280	
Total other accounts			<u>452,913</u>
Total net receivables	\$		<u><u>8,761,845</u></u>

**5. Prepaid Expenses**

Prepaid expenses consist of the following:

Insurance and other	\$	298,971
Purchase power		(201,947)
NYPA prepayment fund		307,573
WC Fuel - Watson		276,106
Total	\$	<u><u>680,703</u></u>



## 6. Inventory

Inventory comprises supplies and materials at June 30, 2017, and is valued using the average cost method.

## 7. Investment in Associated Companies

Under agreements with the New England Hydro-Transmission Electric Company, Inc. (NEH) and the New England Hydro-Transmission Corporation (NHH), the Department has made the following advances to fund its equity requirements for the Hydro-Quebec Phase II interconnection. The Department is carrying its investment at fair value, reduced by shares repurchased. The Department's equity position in the Project is less than one-half of one percent.

Investment in associated companies consists of the following, at June 30, 2017:

New England Hydro-Transmission (NEH & NHH) \$ 212,428

## 8. Capital Assets

The following is a summary of fiscal year 2017 activity in capital assets (in thousands):

	Beginning Balance	Increases	Decreases	Ending Balance
<b>Business-Type Activities:</b>				
Capital assets, being depreciated:				
Structures and improvements	\$ 16,146	\$ 3,268	\$ -	\$ 19,414
Equipment and furnishings	32,511	1,322	(241)	33,592
Infrastructure	88,053	3,465	(991)	90,527
Total capital assets, being depreciated	136,710	8,055	(1,232)	143,533
Less accumulated depreciation for:				
Structures and improvements	(8,949)	(465)	-	(9,414)
Equipment and furnishings	(20,856)	(905)	241	(21,520)
Infrastructure	(35,969)	(2,731)	946	(37,754)
Total accumulated depreciation	(65,774)	(4,101)	1,187	(68,688)
Total capital assets, being depreciated, net	70,936	3,954	(45)	74,845
Capital assets, not being depreciated:				
Land	1,266	-	-	1,266
Total capital assets, not being depreciated	1,266	-	-	1,266
Capital assets, net	\$ 72,202	\$ 3,954	\$ (45)	\$ 76,111

**9. Deferred Outflows of Resources**

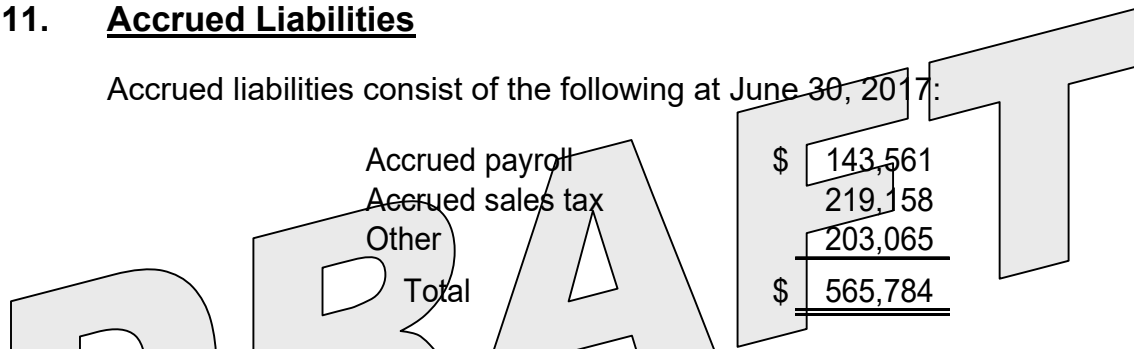
Deferred outflows of resources represent the Department’s consumption of net position that is applicable to future reporting periods. Deferred outflows of resources have a positive effect on net position, similar to assets. Deferred outflows of resources related to pensions, in accordance with GASB Statement No. 68, Accounting and Financial Reporting for Pensions, are more fully discussed in Note 16.

**10. Accounts Payable**

Accounts payable represent fiscal 2017 expenses that were paid after June 30, 2017.

**11. Accrued Liabilities**

Accrued liabilities consist of the following at June 30, 2017:



Accrued payroll	\$ 143,561
Accrued sales tax	219,158
Other	203,065
Total	<u>\$ 565,784</u>

**12. Customer Deposits**

This balance represents deposits received from customers that are held in escrow.

**13. Customer Advances for Construction**

This balance represents deposits received from vendors in advance for work to be performed by the Department. The Department recognizes these deposits as revenue after the work has been completed.

**14. Accrued Employee Compensated Absences**

Department employees are granted sick leave in varying amounts. Upon retirement, normal termination, or death, employees are compensated for unused sick leave (subject to certain limitations) at their then current rates of pay.

**15. Deferred Inflows of Resources**

Deferred inflows of resources are the acquisition of net position by the Department that are applicable to future reporting periods. Deferred inflows of resources

have a negative effect on net position, similar to liabilities. The Department reports two items as deferred inflows of resources: one which is attributable to changes in the net pension liability, and the other which arises from the current financial resources measurement focus and the modified accrual basis of accounting in governmental funds. Deferred inflows of resources related to pension will be recognized in pension expense in future years and is more fully described in Note 16.

## **16. Reading Contributory Retirement System**

The Department follows the provisions of GASB Statement No. 68, *Accounting and Financial Reporting for Pensions – An Amendment of GASB Statement No. 27*, with respect to the employees' retirement funds.

### **A. Plan Description**

Substantially all employees of the Department are members of the Town of Reading Contributory Retirement System (the System), a cost-sharing, multiple-employer public employee retirement system (PERS). Eligible employees must participate in the System. The pension plan provides pension benefits, deferred allowances, and death and disability benefits. Chapter 32 of the Massachusetts General Laws establishes the authority of the System, as well as contribution percentages and benefits paid. The System Retirement Board does not have the authority to amend benefit provisions. Additional information is disclosed in the System's annual financial reports, which are publicly available from the System's administrative offices located at Reading Town Hall, 16 Lowell Street, Reading, Massachusetts, 01867.

### **Participant Retirement Benefits**

The System provides for retirement allowance benefits up to a maximum of 80% of a member's highest three-year average annual rate of regular compensation for those hired prior to April 2, 2012 and the highest five-year average annual rate of regular compensation for those first becoming members of the Massachusetts System on or after that date. However, per Chapter 176 of the Acts of 2011, for members who retire on or after April 2, 2012, if in the 5 years of creditable service immediately preceding retirement, the difference in the annual rate of regular compensation between any 2 consecutive years exceeds 10 percent, the normal yearly amount of the retirement allowance shall be based on the average annual rate of regular compensation received by the member during the period of 5 consecutive years preceding retirement. Benefit payments are based upon a member's age, length of creditable service, level of compensation and group classification.

If a participant was a member prior to February 2012, a retirement allowance may be received at any age, upon attaining 20 years of service. The

plan also provides for retirement at age 55 if the participant was a member prior to January 1, 1978, with no minimum vesting requirements. If the participant was a member on or after January 1, 1978 and a member of Groups 1 or 2, then a retirement allowance may be received if the participant (1) has at least 10 years of creditable service, (2) is age 55, (3) voluntarily left Department employment on or after that date, and (4) left accumulated annuity deductions in the fund. Members of Group 4, have no minimum vesting requirements, however, must be at least age 55. Groups 2 and 4 require that participants perform the duties of the Group position for at least 12 months immediately prior to retirement.

A participant who became a member on or after April 2, 2012 is eligible for a retirement allowance upon 10 years creditable service and reaching ages 60 or 55 for Groups 1 and 2, respectively. Participants in Group 4 must be at least age 55. Groups 2 and 4 require that participants perform the duties of the Group position for at least 12 months immediately prior to retirement.

A retirement allowance consists of two parts: an annuity and a pension. A member's accumulated total deductions and a portion of the interest they generate constitute the annuity. The difference between the total retirement allowance and the annuity is the pension. The average retirement benefit is approximately 80-85% pension and 15-20% annuity.

Participant Refunds

Employees who resign from service and who are not eligible to receive a retirement allowance are entitled to request a refund of their accumulated total deductions. Members voluntarily withdrawing with at least 10 years of service or involuntarily withdrawing, receive 100% of the regular interest that has accrued on those accumulated total deductions. Members voluntarily withdrawing with less than 10 years of service get credited interest each year at a rate of 3%.

Participants Contributions

Participants contribute a set percentage of their gross regular compensation annually. Employee contribution percentages are specified in Chapter 32 of the Massachusetts General Laws. The employee's individual contribution percentage is determined by their date of entry into the system. In addition, all employees hired after January 1, 1979 contribute an additional 2% on all gross regular compensation over the rate of \$30,000 per year. The percentages are as follows:

Before January 1, 1975	5%
January 1, 1975 - December 31, 1983	7%
January 1, 1984 - June 30, 1996	8%
Beginning July 1, 1996	9%

For those members entering a Massachusetts System on or after April 2, 2012 in Group 1, the contribution rate will be reduced to 6% when at least 30 years of creditable service has been attained.

### Employer Contributions

Employers are required to contribute at actuarially determined rates as accepted by the Public Employee Retirement Administration Commission (PERAC).

The Department's contribution to the System for the year ended June 30, 2017 was \$1,579,345, which was equal to its annual required contribution.

### B. Summary of Significant Accounting Policies

For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the fiduciary net position of the System and additions to/deductions from System's fiduciary net position have been determined on the same basis as they are reported by System. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with benefit terms. Investments are reported at fair value.

### C. Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

At June 30, 2017, the Department reported a liability of \$13,076,538 for its proportionate share of the System's net pension liability. The net pension liability was measured as of December 31, 2016, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of January 1, 2015 rolled forward to December 31, 2016. The Department's proportion of the net pension liability was based on an actuarially determined projection of the Department's long-term share of contributions to the pension plan relative to the projected contributions of all participating employers. At December 31, 2016, the Department's proportion was 29.15%.

Town of Reading Municipal Light Department Employees' Retirement Trust ("Pension Trust"): The Department has established an irrevocable trust for the purpose of currently funding its annual required contribution to the Town of Reading Contributory Retirement System (RCRS). Annual contributions to the trust are actuarially determined to be the net normal cost for funding the Department's liability for pension benefits for covered employees, and both the principal and income of the trust is restricted for the exclusive benefit of Department employees and their beneficiaries. This Pension Trust is included in the proprietary fund statements in the Department's basic financial statements.

As noted in the first paragraph of this section, the Department's proportionate share of the RCRS net pension liability was determined by an actuarial valuation as of January 1, 2015 rolled forward to December 31, 2016. However, the actuarial valuation does not take into account the fiduciary net position of the Department's Pension Trust at December 31, 2016 (the measurement date). Accordingly, the following reconciliation is provided:

For the year ended June 30, 2017, the Department recognized pension expense of \$2,313,974. In addition, the Department reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>
Net differences between expected and actual experience	\$ -	\$ 714,888
Changes of assumptions	2,374,236	-
Net difference between projected and actual investment earnings on pension plan	1,538,405	-
Changes in proportion and differences between employer contributions and proportionate share of contributions	<u>222,437</u>	<u>-</u>
Total	<u>\$ 4,135,078</u>	<u>\$ 714,888</u>

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:

2018	\$ 1,028,288
2019	1,028,288
2020	1,015,954
2021	<u>347,660</u>
Total	<u>\$ 3,420,190</u>

#### D. Actuarial Assumptions

The total pension liability was determined by an actuarial valuation as of January 1, 2015, rolled forward to the measurement date of December 31, 2016 using the following actuarial assumptions, applied to all periods included in the measurement:

Valuation Date	January 1, 2015
Actuarial Cost Method	Entry Age Normal Cost Method
Actuarial Assumptions:	
Investment rate of return	7.65%, net of pension plan investment expense,
Projected salary increases	4.25%-6.00% for Group 1 and 4.75%-7.00% for Group 4
Inflation rate	3.00% Annually
Post-retirement cost-of-living adjustment	3.00% of first \$12,000

Mortality rates were based on the RP-2014 Mortality Table with full generational mortality improvement using Scale MP-2014. For disabled lives, the mortality rates were based on the RP-2014 Disabled Mortality Table.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of December 31, 2015 are summarized in the following table:

<u>Asset Class</u>	<u>Target Asset Allocation</u>	<u>Long-term Expected Rates of Return</u>
International Equity	22.00%	8.75%
Domestic Equity	18.00%	7.63%
Core Fixed Income	13.00%	3.76%
Value-Added Fixed Income	10.00%	6.45%
Private Equity	10.00%	9.50%
Real estate	10.00%	6.50%
Hedge funds	9.00%	6.50%
Timber/Natural Resources	4.00%	7.07%
Portfolio Completion Strategies	4.00%	6.18%
Total	<u>100.00%</u>	

#### E. Discount Rate

The discount rate used to measure the total pension liability was 7.65%. The projection of cash flows used to determine the discount rate assumed that the plan member contributions will be made at the current contribution rate

and that employer contributions will be made at contractually required rates, actuarially determined. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments to current active and inactive plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

F. Sensitivity of the Proportionate Share of the Net Pension Liability to Changes in the Discount Rate

The following table presents the Department's proportionate share of the net pension liability (asset) calculated using the current discount rate of 7.65%, as well as what the Department's proportionate share of the net pension liability (asset) would be if it were calculated using a discount rate that is 1 percentage-point lower (6.65%) or 1 percentage-point higher (8.65%) than the current rate:

1% Decrease (6.65%)	Current Discount Rate (7.65%)	1% Increase (8.65%)
\$ 18,629,075	\$ 13,076,538	\$ 8,349,754

G. Pension Plan Fiduciary Net Position

Detailed information about the pension plan's fiduciary net position is available in the separately issued System financial report.

H. Town of Reading Municipal Light Department Employees Retirement Trust ("Pension Trust")

The Department has established an irrevocable trust for the purpose of currently funding its annual required contribution to the Town of Reading Contributory Retirement System (RCRS). Annual contributions to the trust are actuarially determined to be the net normal cost for funding the Department's liability for pension benefits for covered employees, and both the principal and income of the trust is restricted for the exclusive benefit of Department employees and their beneficiaries. This Pension Trust is included in the proprietary fund statements in the Department's basic financial statements.

As noted in the first paragraph of this section, the Department's proportionate share of the RCRS net pension liability was determined by an actuarial valuation as of January 1, 2015 rolled forward to December 31, 2016. However, the actuarial valuation does not take into account the fiduciary net position of the Department's Pension Trust at December 31, 2016 (the measurement date). As of December 31, 2016, the value of the pension trust was \$4,016,746.



## 17. Other Post-Employment Benefits – OPEB (GASB 45)

The Department follows GASB Statement No. 45, *Accounting and Financial Reporting by Employers for Post-Employment Benefits Other Than Pensions*. Statement No. 45 requires governments to account for other post-employment benefits (OPEB), primarily healthcare, on an accrual basis rather than on a pay-as-you-go basis. The effect is the recognition of an actuarially required contribution as an expense on the proprietary fund Statements of Revenues, Expenses, and Changes in Net Position when a future retiree earns their post-employment benefits, rather than when they use them. To the extent that an entity does not fund their actuarially required contribution, a post-employment benefit liability is recognized on the proprietary fund Statements of Net Position over time.

### A. Plan Description

In addition to providing the pension benefits described in Note 16, the Department provides post-employment health and life insurance benefits to retired employees through the Town of Reading's participation in the Massachusetts Interlocal Insurance Association (MIIA) Health Benefits Trust. Benefits, benefit levels, employee contributions and employer contributions are governed by Chapter 32 of the Massachusetts General Laws. As of June 30, 2017, the actuarial valuation measurement date, approximately 91 retirees and 58 active employees meet the eligibility requirements. The plan does not issue a separate financial report.

### B. Benefits Provided

The Department provides post-employment medical, prescription drug, and life insurance benefits to all eligible retirees and their surviving spouses. All active employees who retire from the Department and meet the appropriate criteria are eligible to receive these benefits.

### C. Funding Policy

As of the June 30, 2017, the actuarial valuation measurement date, retirees are required to contribute 29% of the cost of the medical and prescription drug plan, as determined by the MIIA Health Benefits Trust. Retirees also contribute 50% of the premium for a \$5,000 life insurance benefit. The Department contributes the remainder of the medical, prescription drug, and life insurance plan costs on a pay-as-you-go basis.

### D. Annual OPEB Costs and Net OPEB Obligation

The Department's fiscal 2017 annual OPEB expense is calculated based on the annual required contribution of the employer (ARC), an amount actuarially determined in accordance with the parameters of GASB Statement No. 45. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover the normal cost per year and amortize the unfunded actuarial liability over a remaining period of sixteen years.

The following table shows the components of the Department's annual OPEB cost for the year ending June 30, 2017, the amount actually contributed to the plan, and the change in the Department's net OPEB obligation based on an actuarial valuation as of June 30, 2017.

Annual Required Contribution (ARC)	\$ <u>932,387</u>
Annual OPEB cost	932,387
Projected benefit payments	<u>(485,573)</u>
Increase in net OPEB obligation	446,814
Net OPEB obligation - beginning of year	-
Contributions to OPEB Trust	<u>(308,746)</u>
(1) Net OPEB obligation - end of year	<u>\$ 138,068</u>

(1) See Part E for additional information

The Department's annual OPEB cost, the percentage of annual OPEB cost contributed to the plan, and the net OPEB obligation for fiscal year 2017 and the two preceding fiscal years were as follows:

Fiscal Year Ended	Annual OPEB Cost	Percentage of OPEB Cost Contributed	Net OPEB Obligation
2016	\$ 932,387	85.2%	\$ 138,068
2015	\$ 758,525	100.0%	\$ -
2014	\$ 768,378	100.0%	\$ -
2013	\$ 604,987	100.0%	\$ -

**E. Funded Status and Funding Progress**

The funded status of the plan as of June 30, 2017, the most recent actuarial valuation measurement date was as follows:

Actuarial accrued liability (AAL)	\$ 10,015,425
Actuarial value of plan assets	<u>2,857,072</u>
Unfunded actuarial accrued liability (UAAL)	<u>\$ 7,158,353</u>
Funded ratio (actuarial value of plan assets/AAL)	28.53%
Covered payroll (active plan members)	N/A
UAAL as a percentage of covered payroll	N/A

In 2010, the Department's Municipal Light Board voted to accept the provisions of Chapter 32B §20 of Massachusetts General Laws and create an *Other Post-Employment Benefits Liability Trust Fund* as a mechanism to set

aside monies to fund its OPEB liability. In 2013, the Commissioners voted to create an OPEB trust instrument in alignment with the Town of Reading. The assets and net position of this trust are reported in the Department's Fiduciary Funds Statements of Fiduciary Net Position.

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of events far into the future. Examples include assumptions about future employment, mortality, and the healthcare cost trend. Amounts determined regarding the funded status of the plan and the annual required contributions of the employer are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future. The schedule of funding progress, presented as required supplementary information following the notes to the financial statements, presents multi-year trend information about whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liability.

*F. Actuarial Methods and Assumptions*

Projections of benefits for financial reporting purposes are based on the plan as understood by the Department and the plan members and include the types of benefits provided at the time of each actuarial valuation and the historical pattern of sharing of benefit costs between the Department and plan members to that point. The actuarial methods and assumptions used include techniques that are designed to reduce short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations.

In the June 30, 2017 actuarial valuation, the Projected Unit Credit actuarial cost method was used. The Department's actuarial value of plan assets was \$2,857,072. The actuarial assumptions included a 7.50% investment rate of return and an initial annual health care cost trend rate of 7.0% which decreases by 0.5% for five years to an ultimate level of 4.5% per year. The amortization costs for the initial UAAL is a level percentage of payroll amortization, with amortization payments increasing at 2.5% per year for a remaining period of 14 years.

**18. Other Post-Employment Benefits – OPEB (GASB 74)**

In 2010 the Government established an OPEB Trust fund to provide funding for future employee health care costs.

Cash and Short-term Investments

At June 30, 2017, cash and short-term investments consisted of amounts held in money market and certificates of deposit. Concentration and rate of return information was not available.

Net OPEB Liability

The components of the net OPEB liability were as follows:

Total OPEB liability	\$ 10,015,425
Plan fiduciary net position	<u>2,857,072</u>
Net OPEB liability	<u>\$ 7,158,353</u>

Plan fiduciary net position as a percentage of the total OPEB liability 28.5%

*Actuarial assumptions.* The total OPEB liability was determined by an actuarial valuation as of June 30, 2017, using the following actuarial assumptions, applied to all periods included in the measurement, unless otherwise specified:

Inflation	2.50%
Salary increases	6.00% decreasing to 4.25% for Groups 1 & 2 7.00% decreasing to 4.75% for Group 4
Investment rate of return	7.50% percent, net of OPEB plan investment expense, including inflation

Mortality rates were based on:

- Pre-Retirement – RP-2014 Healthy Employee Table projected generationally with Scale MP2014.
- Healthy – RP-2014 Healthy Annuitant Table projected generationally with Scale MP2014.
- Disabled – RP-2014 Disabled Retiree Table projected generationally with Scale MP2014.

The actuarial assumptions used in the June 30, 2017 valuation were the same used during the January 1, 2015 actuarial valuation of the Reading Contributory Retirement System.

The long-term expected rate of return on OPEB plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the target asset allocation as of June 30, 2017 are summarized in the following table:

<u>Asset Class</u>	<u>Target Asset Allocation</u>	<u>Long-term Expected Real Rate of Return</u>
Domestic equity	18.00%	6.44%
International developed markets equity	16.00%	7.40%
International emerging markets equity	6.00%	9.42%
Core fixed income	12.00%	2.02%
High-yield fixed income	10.00%	4.43%
Real estate	10.00%	5.00%
Commodities	4.00%	4.43%
Hedge Fund, GTAA, Risk parity	13.00%	3.75%
Private equity	11.00%	10.47%
Total	<u>100.00%</u>	

*Discount rate.* The discount rate used to measure the total OPEB liability was 7.50%. The projection of cash flows used to determine the discount rate assumed that contributions from plan member will be made at the current contribution rate. Based on those assumptions, the OPEB plan fiduciary net position was not projected to be available to make all projected future benefit payments of current plan members.

*Sensitivity of the net OPEB liability to changes in the discount rate.* The following presents the net OPEB liability as well as what the net OPEB liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.50%) or 1-percentage-point higher (8.50%) than the current discount rate:

<u>1% Decrease (6.50%)</u>	<u>Discount Rate (7.50%)</u>	<u>1% Increase (8.50%)</u>
\$ 7,814,750	\$ 7,158,353	\$ 6,105,048

*Sensitivity of the net OPEB liability to changes in the healthcare cost trend rates.* The following presents the net OPEB liability as well as what the net OPEB liability would be if it were calculated using healthcare cost trend rates that are 1-percentage-point lower (7.00% decreasing to 6.00%) or 1-percentage-point higher (7.00% increasing to 8.00%) than the current healthcare cost trend rates:

<u>1% Decrease (7.00% decreasing to 6.00%)</u>	<u>Healthcare Cost Trend Rates (7.00%)</u>	<u>1% Increase (7.00% increasing to 8.00%)</u>
\$ 6,034,235	\$ 7,158,353	\$ 7,799,633

**19. Participation in Massachusetts Municipal Wholesale Electric Company**

The Town of Reading, acting through its Light Department, is a Participant in certain Projects of the Massachusetts Municipal Wholesale Electric Company (MMWEC).

MMWEC is a public corporation and a political subdivision of the Commonwealth of Massachusetts, created as a means to develop a bulk power supply for its Members and other utilities. MMWEC is authorized to construct, own, or purchase ownership interests in, and to issue revenue bonds to finance, electric facilities (Projects). MMWEC has acquired ownership interests in electric facilities operated by other entities and also owns and operates its own electric facilities. MMWEC sells all of the capability (Project Capability) of each of its Projects to its Members and other utilities (Project Participants) under Power Sales Agreements (PSAs). Among other things, the PSAs require each Project Participant to pay its pro rata share of MMWEC's costs related to the Project, which costs include debt service on the revenue bonds issued by MMWEC to finance the Project, plus 10% of MMWEC's debt service to be paid into a Reserve and Contingency Fund. In addition, should a Project Participant fail to make any payment when due, other Project Participants of that Project may be required to increase (step-up) their payments and correspondingly their Participant's share of that Project's Project Capability to an additional amount not to exceed 25% of their original Participant's share of that Project's Project Capability. Project Participants have covenanted to fix, revise, and collect rates at least sufficient to meet their obligations under the PSAs.

MMWEC has issued separate issues of revenue bonds for each of its eight Projects, which are payable solely from, and secured solely by, the revenues derived from the Project to which the bonds relate, plus available funds pledged under MMWEC's Amended and Restated General Bond Resolution (GBR) with respect to the bonds of that Project. The MMWEC revenues derived from each Project are used solely to provide for the payment of the bonds of any bond issue relating to such Project and to pay MMWEC's cost of owning and operating such Project and are not used to provide for the payment of the bonds of any bond issue relating to any other Project.

MMWEC operates the Stony Brook Intermediate Project and the Stony Brook Peaking Project, both fossil-fueled power plants. MMWEC has a 3.7% interest in the W.F. Wyman Unit No. 4 plant, which is operated and owned by its majority owner, FPL Energy Wyman IV, LLC, a subsidiary of NextEra Energy Resources LLC, and a 4.8% ownership interest in the Millstone Unit 3 nuclear unit, operated by Dominion Nuclear Connecticut, Inc. (DNCI), the majority owner and an indirect subsidiary of Dominion Resources, Inc. DNCI also owns and operates the Millstone Unit 2 nuclear unit. The operating license for the Millstone Unit 3 nuclear unit extends to November 25, 2045.

MMWEC A substantial portion of MMWEC's plant investment and financing program is an 11.6% ownership interest in the Seabrook Station nuclear generating unit operated by NextEra Energy Seabrook, LLC (NextEra Seabrook) the majority owner and an indirect subsidiary of NextEra Energy Resources LLC. The operating license for Seabrook Station extends to March 15, 2030. NextEra Seabrook has submitted an application to extend the Seabrook Station operating license for an additional 20 years.

Pursuant to the PSAs, the MMWEC Seabrook and Millstone Project Participants are liable for their proportionate share of the costs associated with decommissioning the plants, which costs are being funded through monthly Project billings. Also, the Project Participants are liable for their proportionate share of the uninsured costs of a nuclear incident that might be imposed under the Price-Anderson Act (Act). Originally enacted in 1957, the Act has been renewed several times. In July 2005, as part of the Energy Policy Act of 2005, Congress extended the Act until the end of 2025.

The Reading Municipal Light Department has entered into PSAs and Power Purchase Agreements (PPAs) with MMWEC. Under both the PSAs and PPAs, the Department is required to make certain payments to MMWEC payable solely from Department revenues. Under the PSAs, each Participant is unconditionally obligated to make payments due to MMWEC whether or not the Project(s) is completed or operating and notwithstanding the suspension or interruption of the output of the Project(s).

MMWEC is involved in various legal actions. In the opinion of management, the outcome of such litigation or claims will not have a material adverse effect on the financial position of the company.

After the July 1, 2017 principal payment, total capital expenditures amounted to \$1,704,467,000, of which \$126,846,000 represents the amount associated with the Department's Project Capability. MMWEC's debt outstanding for the Projects from Power Supply System Revenue Bonds totals \$10,680,000, of which \$182,000 is associated with the Department's share of Project Capability. After the July 1, 2017 principal payment, MMWEC's total future debt service requirement on outstanding bonds issued for the Projects is \$11,540,000, of which \$190,000 is anticipated to be billed to the Department in the future.

The aggregate amount of the Department's required payments under the PSAs and PPAs, exclusive of the Reserve and Contingency Fund billings, to MMWEC at June 30, 2017 and estimated for future years is shown below.

		<u>Annual Costs</u>
For years ending June 30,	2018	\$ <u>190,000</u>
	Total	\$ <u><u>190,000</u></u>

In addition, under the PSAs, the Department is required to pay to MMWEC its share of the Operation and Maintenance (O& M) costs of the Projects in which it participates. The Department's total O& M costs including debt service under the PSAs were \$9,548,000 and \$11,894,000 for the years ended June 30, 2017 and 2016, respectively.

**20. Renewable Energy Certificates**

In 2003, the Massachusetts Department of Energy and Environmental Affairs adopted the Massachusetts Renewable Energy Portfolio Standard (RPS), a regulation that requires Investor Owned Utilities (IOUs) to purchase mandated amounts of energy generated by renewable resources (Green Energy) as a percentage of their overall electricity sales. The Massachusetts RPS applies only to IOUs, so the Department is currently exempt from this mandate.

Energy suppliers meet their annual RPS obligations by acquiring a sufficient quantity of RPS-qualified renewable energy certificates (RECs) that are created and recorded at the New England Power Pool (NEPOOL) Generation Information System (GIS). Suppliers can purchase RECs from electricity generators or from other utilities that have acquired RECs.

As part of its ongoing commitment to Green Energy, the Department has entered into Purchase Power Agreements (PPAs) with Swift River Hydro LLC and Concord Steam Corporation to purchase power generated from renewable energy resources. These PPAs include the Department taking title to RECs, which certify that the energy produced was the product of a renewable resource. Because the Department is exempt from the RPS provisions, it has the option of holding these RECs until they expire or selling them through the NEPOOL GIS.

Information regarding the Department's fiscal year 2017 REC activity and balances is as follows:

REC Sales During Fiscal 2017

	<u>Certificates</u>	<u>Unit Price</u>	<u>Amount</u>
CT Class I	9,173	\$ 16.00	\$ 146,768
MA Class I	2,770	\$ 9.50	26,315
MA Class II	3,827	\$ 24.00	91,848
MA/RI/CT Class I	14,934	\$ 9.50	141,873
CT Class I	<u>3,155</u>	\$ 9.50	<u>29,973</u>
Total	<u>33,859</u>		<u>\$ 436,777</u> <sup>(1)</sup>

(1) Sale proceeds netted against fiscal year 2017 purchased power fuel charge



REC Holdings at June 30, 2017

	<u>Banked Certificates</u>	<u>Projected Certificates</u>	<u>Total Certificates</u>	<u>Estimated Value</u>
MA Class I & II	8,655	8,580	17,235	\$ 275,380
CT Class I	2,218	3,356	3,356	89,184
RI Class I	<u>8</u>	<u>20</u>	<u>20</u>	<u>828</u>
Total	<u>10,881</u>	<u>11,956</u>	<u>20,611</u>	<u>\$ 365,392</u>

A banked REC is a REC that has been processed by the NEPOOL GIS Coordinator and is in the Department's GIS account. A projected REC is the Department's estimate of what will be received based on invoices generated by REC-producing projects that the Department has entitlements to.

Because there is no formal accounting guidance under GAAP or IFRS for RECs and the Department does not have a formal policy for the future disposition of RECs, the estimated fair value of the Department's REC holdings at June 30, 2017 are not recognized as an asset on the proprietary fund Statements of Net Position.

**21. Leases**

Related Party Transaction - Property Sub-Lease

The Department is the lessor of facilities that are currently sub-leased to the Reading Town Employees Federal Credit Union. The original sub-lease agreement commenced in December 2000 and was extended by various amendments through November 30, 2017. Following is the future minimum rental income to be received by the Department under the terms of this lease for the year ending June 30:

2018	\$ <u>4,084</u>
Total	\$ <u><u>4,084</u></u>

Operating Lease - Warehouse

The Department is the lessee of a warehouse facility owned by JCM Real Estate Trust. The original lease agreement for this facility commenced in December 1998 and was extended by various amendments through May 31, 2016. Under the terms of the most recent lease amendment, the Department has exercised the option to extend the lease for an additional 24 months until May 31, 2018. Following is the future minimum rental expense to be paid by the Department for the year ending June 30:

2018	\$ <u>147,902</u>
Total	\$ <u><u>147,902</u></u>

**22. Beginning Net Position Restatement and Reclassification**

In fiscal year 2017 the Governmental Accounting Standards Board released Implementation Guide No. 2017-1. The implementation guide states that a municipality cannot reduce their net pension liability by the value of a separate pension trust. Furthermore, the implementation guides states that the pension trust should be presented as part of the proprietary statement of net position and not a separate fiduciary fund. As a result of this implementation guide, the beginning (July 1, 2015) net position of the Department’s proprietary and fiduciary funds has been restated and reclassified as follows:

	<u>Business-Type Activities</u>	<u>Fiduciary Funds</u>
	Proprietary <u>Fund</u>	Pension Trust <u>Fund</u>
As previously reported	\$ 101,445,083	\$ 5,450,833
Reclassification to Business-Type Activities	5,450,833	(5,450,833)
GASB 68 Restatement	(5,440,472)	-
As restated	<u>\$ 101,455,444</u>	<u>\$ -</u>

**23. Implementation of New GASB Standard**

The Governmental Accounting Standards Board (GASB) has issued Statement No. 75, Accounting and Financial Reporting for Postemployment Benefits Other than Pensions, replacing requirements of Statements No. 45 and 57, effective for the Department beginning with its year ending June 30, 2018. This Statement establishes standards for recognizing and measuring liabilities, deferred outflows of resources, deferred inflows of resources, and expense/expenditures. In addition, this Statement details the recognition and disclosure requirements for employers with payables to defined benefit OPEB plans that are administered through trusts that meet the specific criteria and for employers whose employees are provided with defined contribution OPEB.

TOWN OF READING, MASSACHUSETTS, MUNICIPAL LIGHT DEPARTMENT

SCHEDULE OF PROPORTIONATE SHARE  
OF THE NET PENSION LIABILITY (GASB 68)

JUNE 30, 2017  
(Unaudited)

Reading Contributory Retirement System						
<u>Fiscal Year</u>	<u>Measurement Date</u>	<u>Proportion of the Net Pension Liability</u>	<u>Proportionate Share of the Net Pension Liability</u>	<u>Covered Payroll</u>	<u>Proportionate Share of the Net Pension Liability as a Percentage of Covered Payroll</u>	<u>Plan Fiduciary Net Position Percentage of the Total Pension Liability</u>
June 30, 2017	December 31, 2016	29.15%	\$13,076,538	\$ 6,393,765	204.52%	73.43%
June 30, 2016	December 31, 2015	28.25%	\$12,862,732	\$ 6,147,851	209.22%	72.17%
June 30, 2015	December 31, 2014	28.25%	\$8,464,663	\$ 5,908,694	143.26%	79.89%

Schedules are intended to show information for 10 years. Additional years will be displayed as they become available.

See Independent Auditors' Report.

**DRAFT**

TOWN OF READING, MASSACHUSETTS, MUNICIPAL LIGHT DEPARTMENT

SCHEDULE OF PENSION CONTRIBUTIONS (GASB 68)

JUNE 30, 2017  
(Unaudited)

Reading Contributory Retirement System

<u>Fiscal Year</u>	<u>Contractually Required Contribution</u>	<u>Contractually Required Contribution</u>	<u>Contribution Deficiency (Excess)</u>	<u>Covered Payroll</u>	<u>Contributions as a Percentage of Covered Payroll</u>
June 30, 2017	\$ 1,579,345	\$ 1,579,345	\$ -	\$ 6,393,765	24.70%
June 30, 2016	\$ 1,461,650	\$ 1,461,650	\$ -	\$ 6,147,851	23.77%
June 30, 2015	\$ 1,401,638	\$ 1,401,638	\$ -	\$ 5,908,694	23.72%

*Schedules are intended to show information for 10 years. Additional years will be displayed as they become available.*

See Independent Auditors' Report.

**TOWN OF READING, MASSACHUSETTS, MUNICIPAL LIGHT DEPARTMENT  
SCHEDULE OF OPEB FUNDING PROGRESS (GASB 45)**

**June 30, 2017  
(Unaudited)**

**Other Post-Employment Benefits**

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Liability (AAL) - Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percent- age of Covered Payroll [(b-a)/c]
06/30/16	\$ 2,857,072	\$ 10,015,425	\$ 7,158,353	28.53%	N/A	N/A
06/30/14	\$ 1,846,042	\$ 7,726,667	\$ 5,880,625	23.89%	N/A	N/A
06/30/13	\$ 1,495,511	\$ 7,588,993	\$ 6,093,482	19.71%	N/A	N/A
06/30/11	\$ 1,167,161	\$ 8,643,438	\$ 7,476,277	13.50%	N/A	N/A
06/30/08	\$ -	\$ 8,085,388	\$ 8,085,388	0.00%	N/A	N/A

DRAFT

See Independent Auditors' Report.

**TOWN OF READING, MASSACHUSETTS  
MUNICIPAL LIGHT DEPARTMENT  
OTHER POST-EMPLOYMENT BENEFITS (OPEB)**

**Schedule of Changes in the Net OPEB Liability (GASB 74)**

(Unaudited)

	<u>2017</u>
<b>Total OPEB liability</b>	
Service cost	\$ 245,842
Interest on unfunded liability - time value of \$	698,939
Benefit payments, including refunds of member contributions	<u>(485,573)</u>
Net change in total OPEB liability	459,208
Total OPEB liability - beginning	<u>9,556,217</u>
<b>Total OPEB liability - ending (a)</b>	<b>\$ 10,015,425</b>
<b>Plan fiduciary net position</b>	
Contributions - employer	\$ 794,319
Net investment income	22,484
Benefit payments, including refunds of member contributions	<u>(485,573)</u>
Net change in plan fiduciary net position	331,230
Plan fiduciary net position - beginning	<u>2,525,842</u>
<b>Plan fiduciary net position - ending (b)</b>	<b>\$ 2,857,072</b>
<b>Net OPEB liability (asset) - ending (a-b)*</b>	<b>\$ 7,158,353</b>

\*Materially agrees with Statement of Fiduciary Net Position

*Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.*

See notes to the Department's financial statements for summary of significant actuarial methods and assumptions.

See Independent Auditors' Report.

**TOWN OF READING, MASSACHUSETTS  
MUNICIPAL LIGHT DEPARTMENT  
OTHER POST-EMPLOYMENT BENEFITS (OPEB)**

**Schedules of Net OPEB Liability, Contributions, and Investment Returns (GASB 74)**

(Unaudited)

**Schedule of Net OPEB Liability**

	<u>2017</u>
Total OPEB liability	\$ 10,015,425
Plan fiduciary net position	<u>2,857,072</u>
Net OPEB liability (asset)	<u><u>\$ 7,158,353</u></u>
Plan fiduciary net position as a percentage of the total OPEB liability	28.5%
Covered payroll	unavailable
Participating employer net OPEB liability (asset) as a percentage of covered payroll	unavailable

**Schedule of Contributions**

	<u>2017</u>
Actuarially determined contribution	\$ 932,387
Contributions in relation to the actuarially determined contribution	<u>794,319</u>
Contribution deficiency (excess)	<u><u>\$ 138,068</u></u>
Covered payroll	unavailable
Contributions as a percentage of covered payroll	unavailable

*Schedules are intended to show information for 10 years.  
Additional years will be displayed as they become available.*

See notes to Department's financial statements for summary of significant actuarial methods and assumptions.

See Independent Auditors' Report.

POWER SUPPLY REPORT  
AUGUST and SEPTEMBER 2016  
ATTACHMENT 3



# INTEGRATED RESOURCES RMLD

BOARD OF COMMISSIONERS MEETING  
NOVEMBER 9, 2017

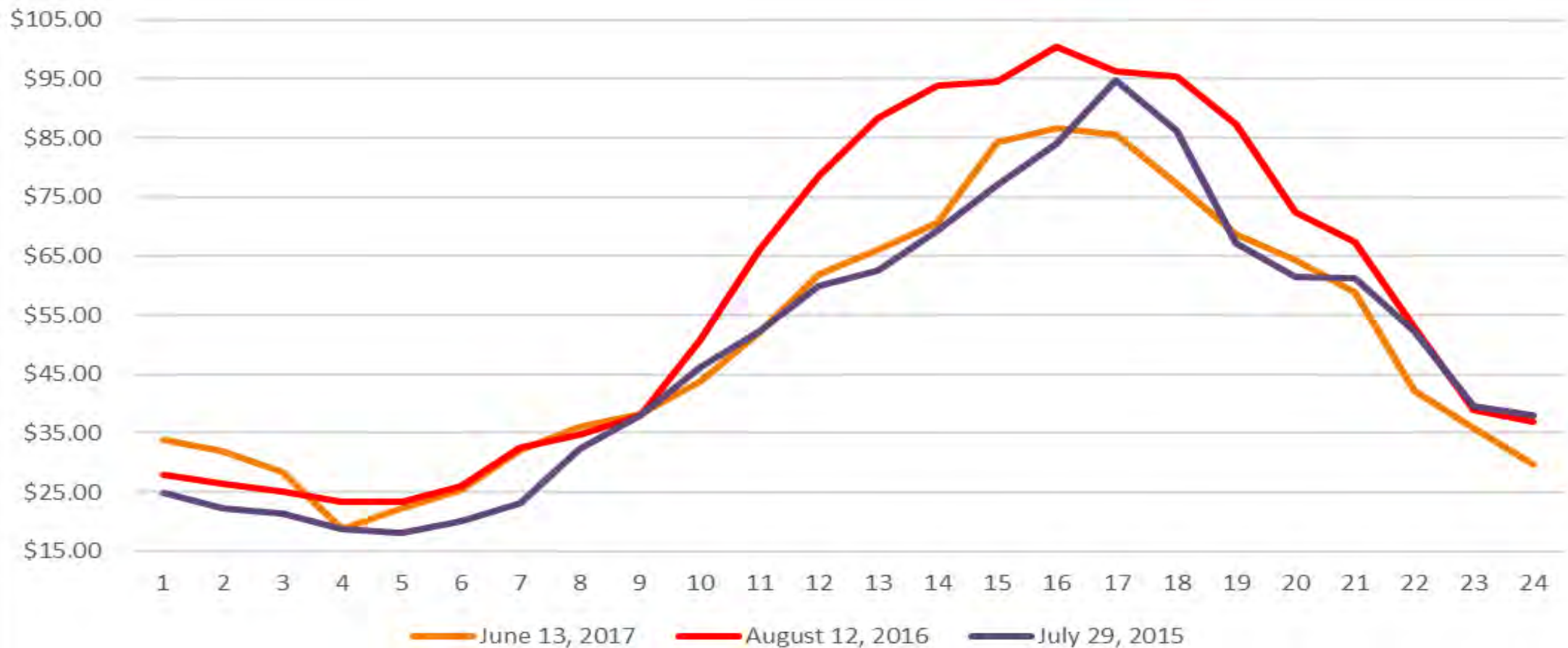
REPORTING FOR AUGUST & SEPTEMBER 2017, RATE COMPARISSION FOR NOVEMBER 2017

William Seldon, Assistant Director of Integrated Resources

# Market Statistics : Day Ahead Pricing

## ISO Peak 24 Hour Period

### 2015-2017

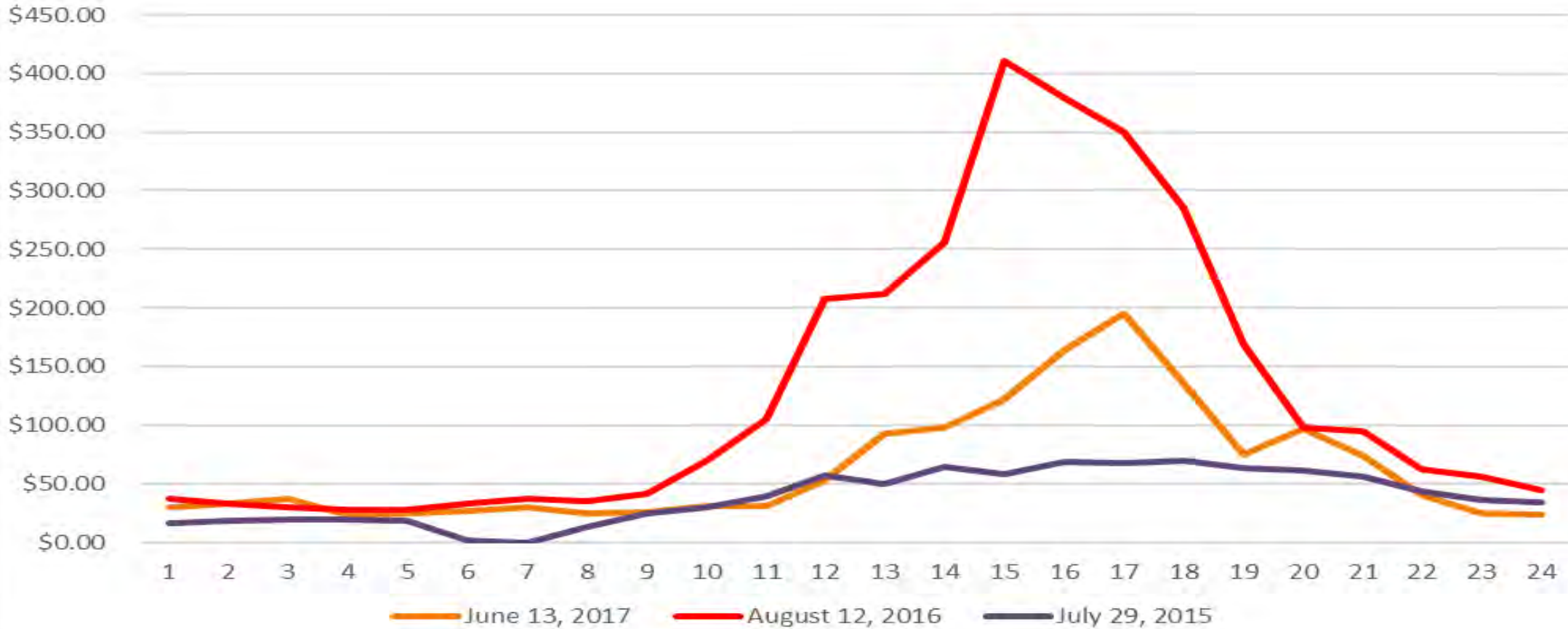


# Market Statistics

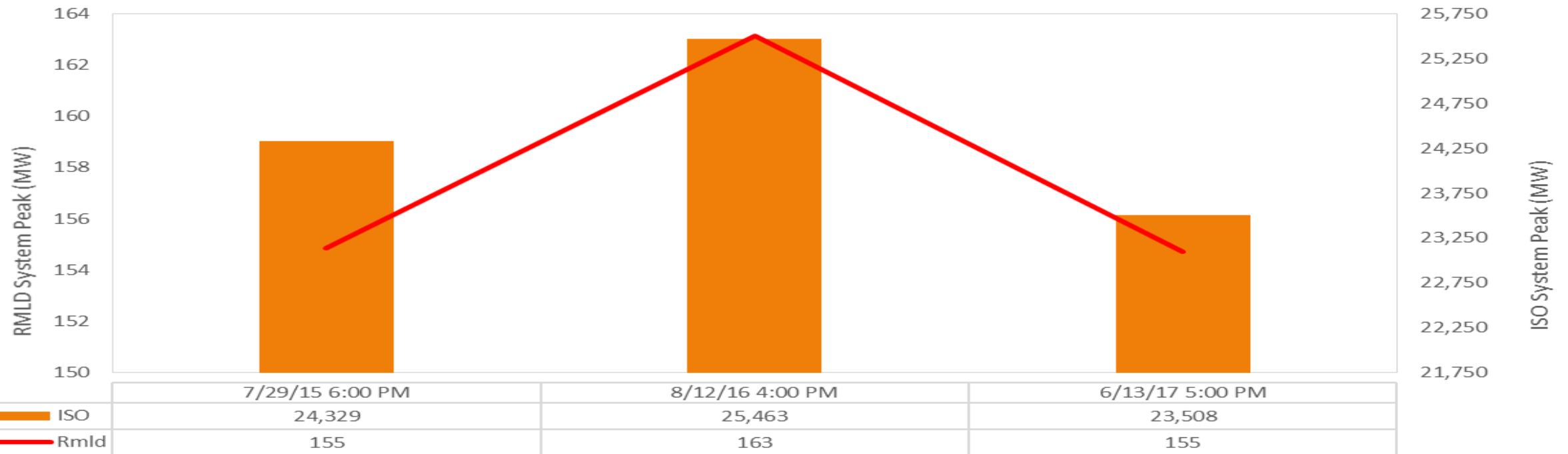
## Real Time Pricing

### ISO Peak 24 Hour Period

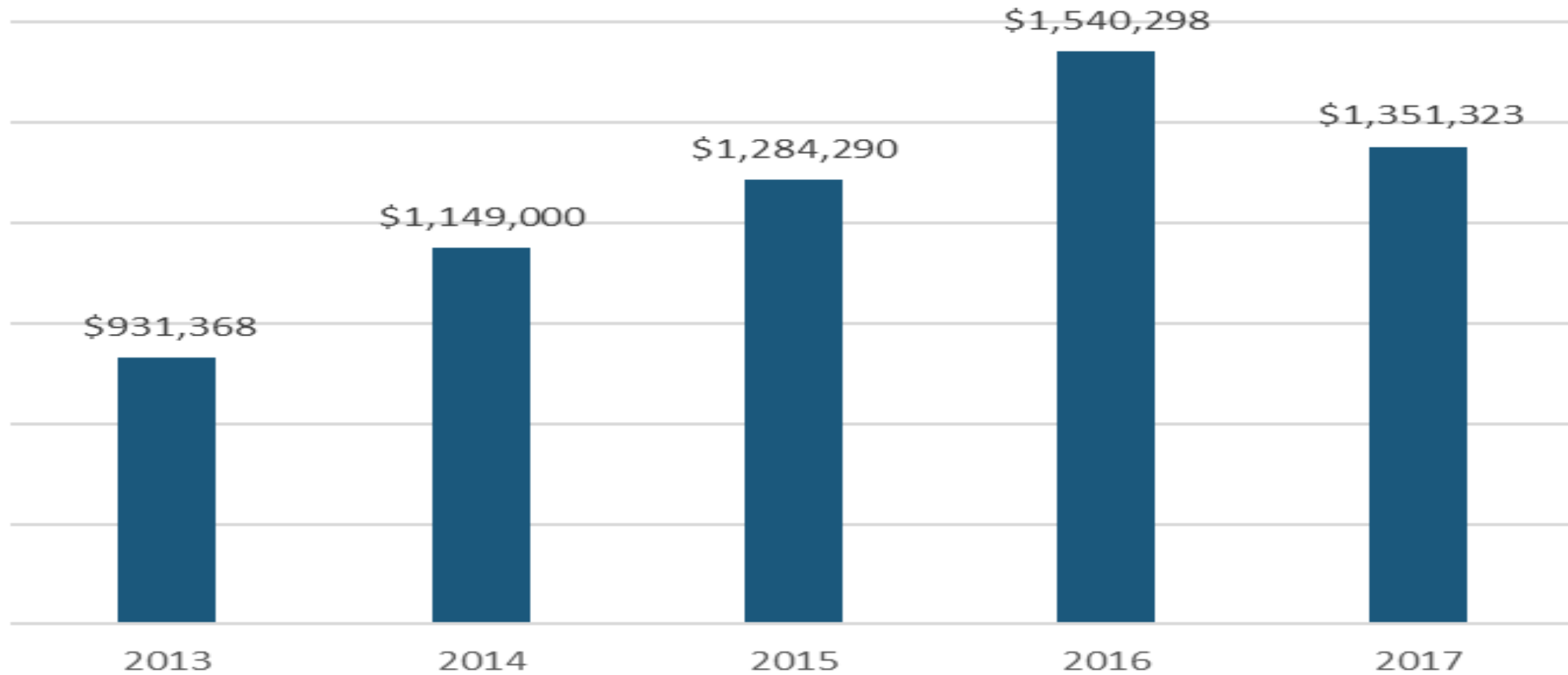
2015-2017



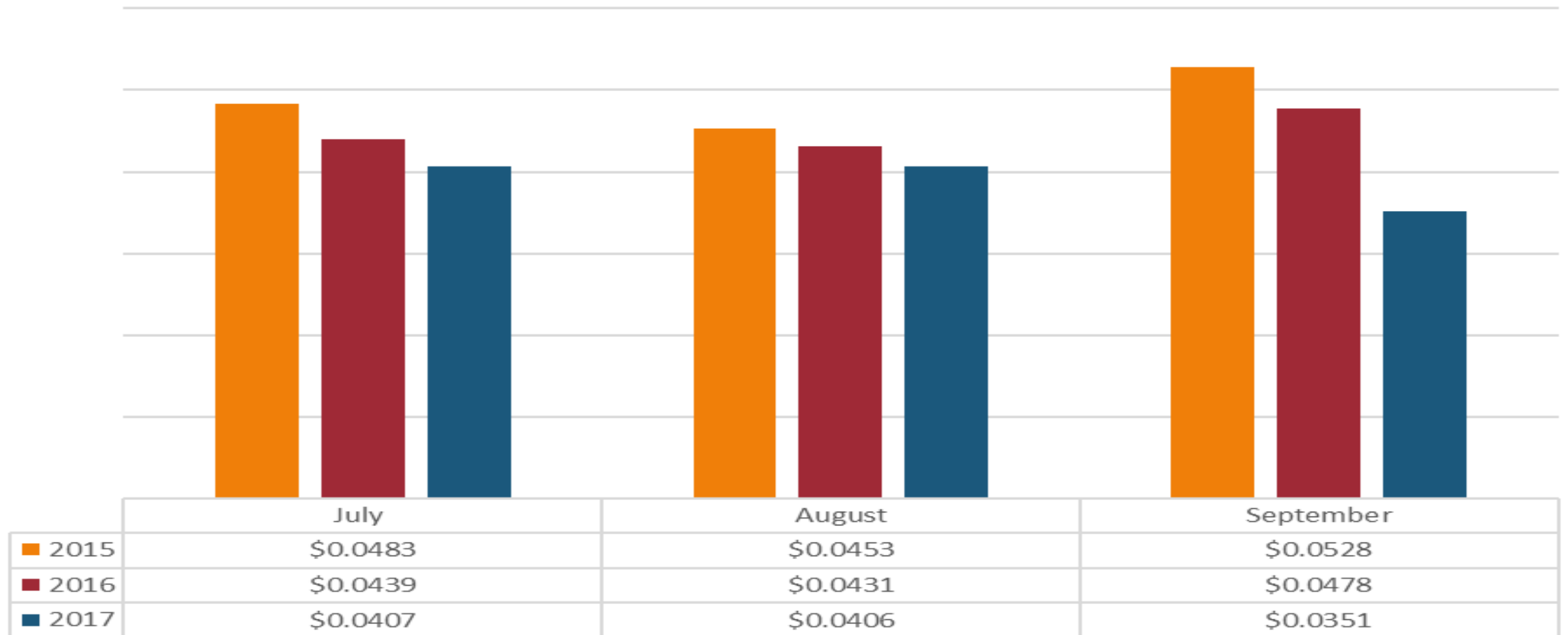
# ISO System Peak Coincident with RMLD Load 2015-2017



# Historical RMLD Transmission Costs September 2013 - 2017

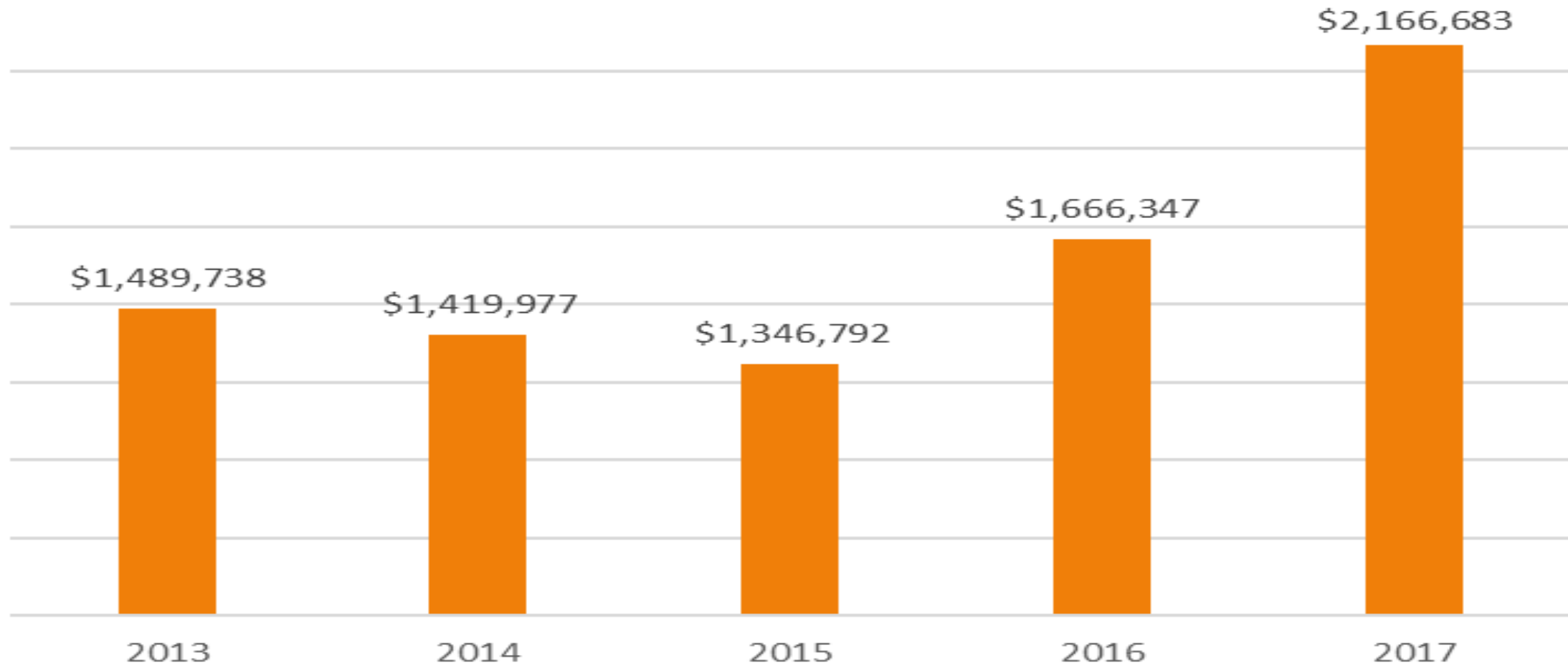


# RMLD's Historical Energy Costs July - September 2015-2017



# RMLD's Historical Capacity Costs

September  
2013-2017



To: Coleen O'Brien

From:  Maureen McHugh, Jane Parenteau 

Date: October 31, 2017

Subject: Purchase Power Summary – August, 2017

Energy Services Division (ESD) has completed the Purchase Power Summary for the month of August, 2017.

### ENERGY

The RMLD's total metered load for the month was 64,179,880 kWh, which is a 14.83% decrease from the August, 2016 figures.

Table 1 is a breakdown by source of the energy purchases.

**Table 1**

Resource	Amount of Energy (kWh)	Cost of Energy (\$/Mwh)	% of Total Energy	Total \$ Costs	\$ as a %
Millstone #3	3,634,214	\$6.72	5.79%	\$24,427	0.96%
Seabrook	5,908,154	\$5.93	9.41%	\$35,025	1.37%
Stonybrook Intermediate	2,573,494	\$31.79	4.10%	\$81,801	3.21%
Shell Energy	13,823,600	\$60.36	22.03%	\$834,327	32.74%
NYP&A	2,695,340	\$4.92	4.29%	\$13,261	0.52%
EDF	4,747,200	\$47.14	7.56%	\$223,806	8.78%
ISO Interchange	(154,991)	\$0.00	-0.25%	-\$12,480	-0.49%
Community Solar Power	193,748	-\$167.59	0.31%	-\$32,471	-1.27%
Coop Resales	26,353	\$139.65	0.04%	\$3,680	0.14%
BP Energy	12,666,400	\$46.78	20.18%	\$592,534	23.25%
Hydro Projects*	845,952	\$55.13	1.35%	\$46,641	1.83%
Braintree Watson Unit	335,680	\$81.41	0.53%	\$27,327	1.07%
Saddleback/Jericho Wind	1,388,213	\$85.95	2.21%	\$119,320	4.68%
One Burlington Solar	380,933	\$71.05	0.61%	\$27,065	1.06%
Exelon	13,643,200	\$40.46	21.74%	\$552,033	21.66%
Stonybrook Peaking	51,913	\$237.00	0.08%	\$12,303	0.48%
Monthly Total	62,759,403	\$40.61	100.00%	\$2,548,601	100.00%

\*Pepperell, Woronoco, Indian River, Turner Falls, Collins, Pioneer, Hosiery Mills, Summit Hydro



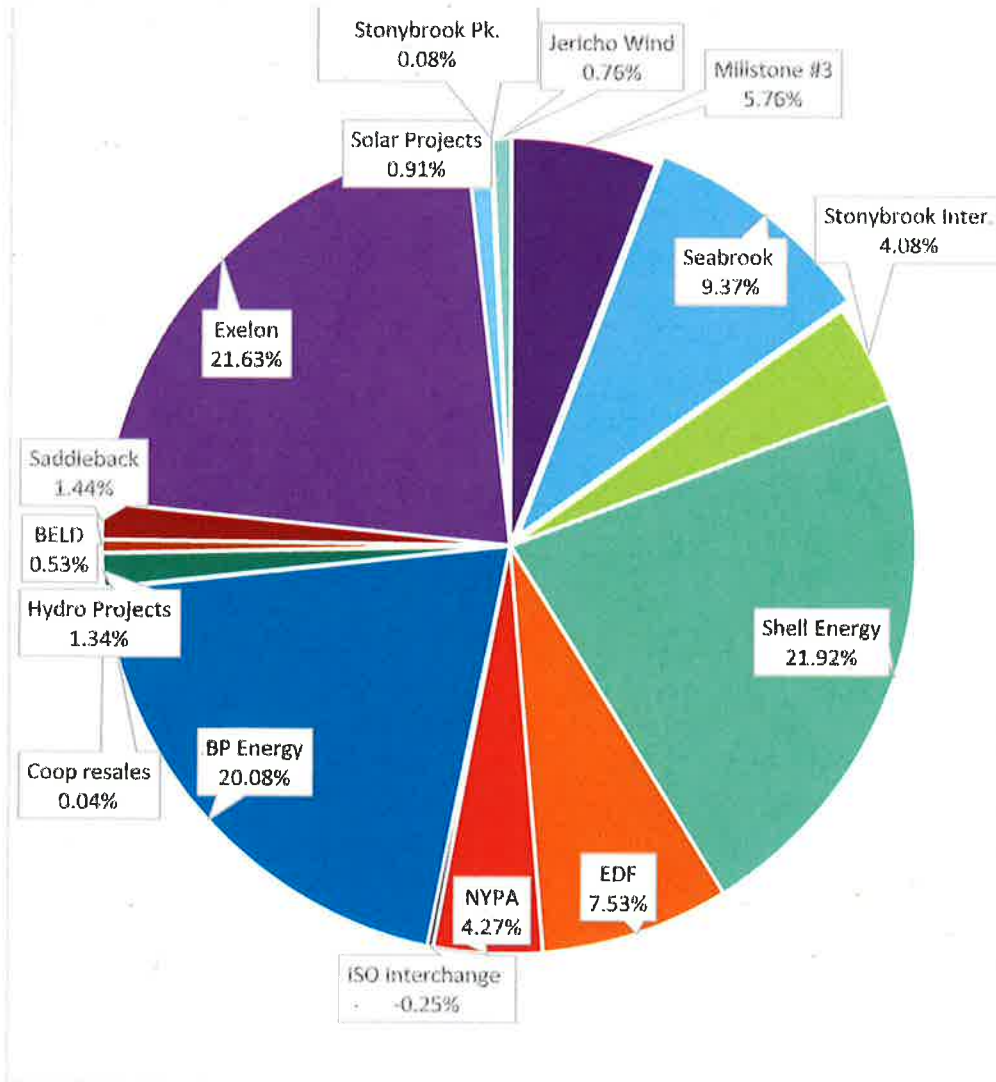
Table 2 breaks down the ISO interchange between the DA LMP Settlement and the RT Net Energy for the month of August, 2017.

**Table 2**

Resource	Amount of Energy (kWh)	Cost of Energy (\$/Mwh)	% of Total Energy
ISO DA LMP *	5,142,101	\$20.27	8.19%
RT Net Energy **	(5,297,092)	\$22.30	-8.44%
ISO Interchange (subtotal)	(154,991)	\$8.08	-0.25%

\* Independent System Operator Day-Ahead Locational Marginal Price

**AUGUST 2017 ENERGY BY RESOURCE**



## CAPACITY

The RMLD hit a demand of 140,722 kW, which occurred on August 22, at 5 pm. The RMLD's monthly UCAP requirement for August, 2017 was 220,648 kW.

Table 3 shows the sources of capacity that the RMLD utilized to meet its requirements.

**Table 3**

Source	Amount (kW)	Cost (\$/kW-month)	Total Cost \$	% of Total Cost
Millstone #3	4,950	26.97	\$133,514	6.50%
Seabrook	7,909	22.88	\$180,992	8.81%
Stonybrook Peaking	24,980	2.03	\$50,720	2.47%
Stonybrook CC	42,925	3.38	\$145,113	7.07%
NYPA	0	0.00	-\$10,792	-0.53%
Hydro Quebec	0	0	-\$37,846	-1.84%
Braintree Watson Unit	0	0.00	-\$4,723	-0.23%
ISO-NE Supply Auction	139,884	11.42	\$1,596,892	77.75%
<b>Total</b>	<b>220,648</b>	<b>\$9.31</b>	<b>\$2,053,870</b>	<b>100.00%</b>

Table 4 shows the dollar amounts for energy and capacity per source.

**Table 4**

Resource	Energy	Capacity	Total cost	% of Total Cost	Amt of Energy (kWh)	Cost of Power (\$/kWh)
Millstone #3	\$24,427	\$133,514	\$157,942	3.43%	3,634,214	0.0435
Seabrook	\$35,025	\$180,992	\$216,017	4.69%	5,908,154	0.0366
Stonybrook Intermediate	\$81,801	\$145,113	\$226,914	4.93%	2,573,494	0.0882
Hydro Quebec	\$0	-\$37,846	-\$37,846	-0.82%	-	0.0000
Shell Energy	\$834,327	\$0	\$834,327	18.13%	13,823,600	0.0604
NextEra/EDF	\$223,806	\$0	\$223,806	4.86%	4,747,200	0.0471
* NYPA	\$13,261	-\$10,792	\$2,469	0.05%	2,695,340	0.0009
ISO Interchange	-\$12,480	\$1,596,892	\$1,584,412	34.43%	(154,991)	-10.2226
Nema Congestion	-\$46,518	\$0	-\$46,518	-1.01%	193,748	-0.2401
BP Energy	\$592,534	\$0	\$592,534	12.87%	12,666,400	0.0468
* Hydro Projects	\$46,641	\$0	\$46,641	1.01%	845,952	0.0551
Braintree Watson Unit	\$27,327	-\$4,723	\$22,604	0.49%	335,680	0.0673
* Saddleback/Jericho	\$119,320	\$0	\$119,320	2.59%	1,388,213	0.0860
* Burlington & Community Solar	\$41,112	\$0	\$41,112	0.89%	380,933	0.1079
Coop Resales	\$3,680	\$0	\$3,680	0.08%	26,353	0.1397
Exelon Energy	\$552,033	\$0	\$552,033	11.99%	13,643,200	0.0405
Stonybrook Peaking	\$12,303	\$50,720	\$63,023	1.37%	51,913	1.2140
Monthly Total	\$2,548,601	\$2,053,870	\$4,602,471	100.00%	62,759,403	0.0733
* <b>Renewable Resources</b>					<b>8.46%</b>	

## RENEWABLE ENERGY CERTIFICATES (RECs)

Table 5 shows the amount of banked and projected RECs for the Swift River Hydro Projects through August 2017, as well as their estimated market value.

**Table 5**  
**RECs Summary**  
**Period - January 2017 - August 2017**

	<b>Banked RECs</b>	<b>Projected RECs</b>	<b>Total RECs</b>	<b>Est. Dollars</b>
Woronoco	0	5,155	5,155	\$82,480
Pepperell	0	2,775	2,775	\$44,400
Indian River	0	1,552	1,552	\$24,833
Turners Falls	0	1,280	1,280	\$20,480
Saddleback	0	8,743	8,743	\$139,888
Jericho	0	4,286	4,286	\$68,576
<b>Sub total</b>	<b>0</b>	<b>23,791</b>	<b>23,791</b>	<b>380,657</b>
RECs Sold	\$0		0	\$0
<b>Grand Total</b>	<b>0</b>	<b>23,791</b>	<b>23,791</b>	<b>\$380,657</b>



## TRANSMISSION

The RMLD's total transmission costs for the month of August, 2017 were \$1,414,026. This is a decrease of 8.55% from the July transmission cost of \$1,546,151. In August, 2016 the transmission costs were \$1,370,117.

**Table 6**

	<b>Current Month</b>	<b>Last Month</b>	<b>Last Year</b>
Peak Demand (kW)	140,722	145,294	163,134
Energy (kWh)	62,759,403	66,553,229	74,092,068
Energy (\$)	\$2,548,601	\$2,709,058	\$3,194,092
Capacity (\$)	\$2,053,870	\$2,081,717	\$1,915,137
Transmission(\$)	\$1,414,026	\$1,546,151	\$1,370,117
Total	\$6,016,497	\$6,336,927	\$6,479,345

To: Coleen O'Brien

From:  Maureen McHugh, Jane Parenteau 

Date: October 31, 2017

Subject: Purchase Power Summary – September, 2017

Energy Services Division (ESD) has completed the Purchase Power Summary for the month of September, 2017.

**ENERGY**

The RMLD's total metered load for the month was 56,651,202 kWh, which is a 1.80% decrease from the September, 2016 figures.

Table 1 is a breakdown by source of the energy purchases.

**Table 1**

Resource	Amount of Energy (kWh)	Cost of Energy (\$/Mwh)	% of Total Energy	Total \$ Costs	\$ as a %
Millstone #3	3,532,365	\$6.72	6.26%	\$23,743	1.20%
Seabrook	5,698,670	\$5.93	10.10%	\$33,783	1.70%
Stonybrook Intermediate	13,875	\$107.71	0.02%	\$1,494	0.08%
Shell Energy	9,064,000	\$58.61	16.06%	\$531,240	26.79%
NYPA	2,258,398	\$4.92	4.00%	\$11,111	0.56%
EDF	4,520,000	\$25.18	8.01%	\$113,793	5.74%
ISO Interchange	10,558,540	\$35.13	18.71%	\$370,896	18.71%
Community Solar Power	147,323	\$127.02	0.26%	\$18,713	0.94%
Coop Resales	13,894	\$155.16	0.02%	\$2,156	0.11%
BP Energy	9,624,000	\$46.78	17.05%	\$450,211	22.71%
Hydro Projects*	744,852	\$70.52	1.32%	\$52,525	2.65%
Braintree Watson Unit	581,106	\$40.26	1.03%	\$23,393	1.18%
Saddleback/Jericho Wind	604,315	\$76.38	1.07%	\$46,160	2.33%
One Burlington Solar	275,447	\$71.05	0.49%	\$19,571	0.99%
Exelon	8,720,000	\$30.30	15.45%	\$264,232	13.33%
Stonybrook Peaking	80,407	\$245.90	0.14%	\$19,772	1.00%
Monthly Total	56,437,192	\$35.13	100.00%	\$1,982,794	100.00%

\*Pepperell, Woronoco, Indian River, Turner Falls, Collins, Pioneer, Hosiery Mills, Summit Hydro

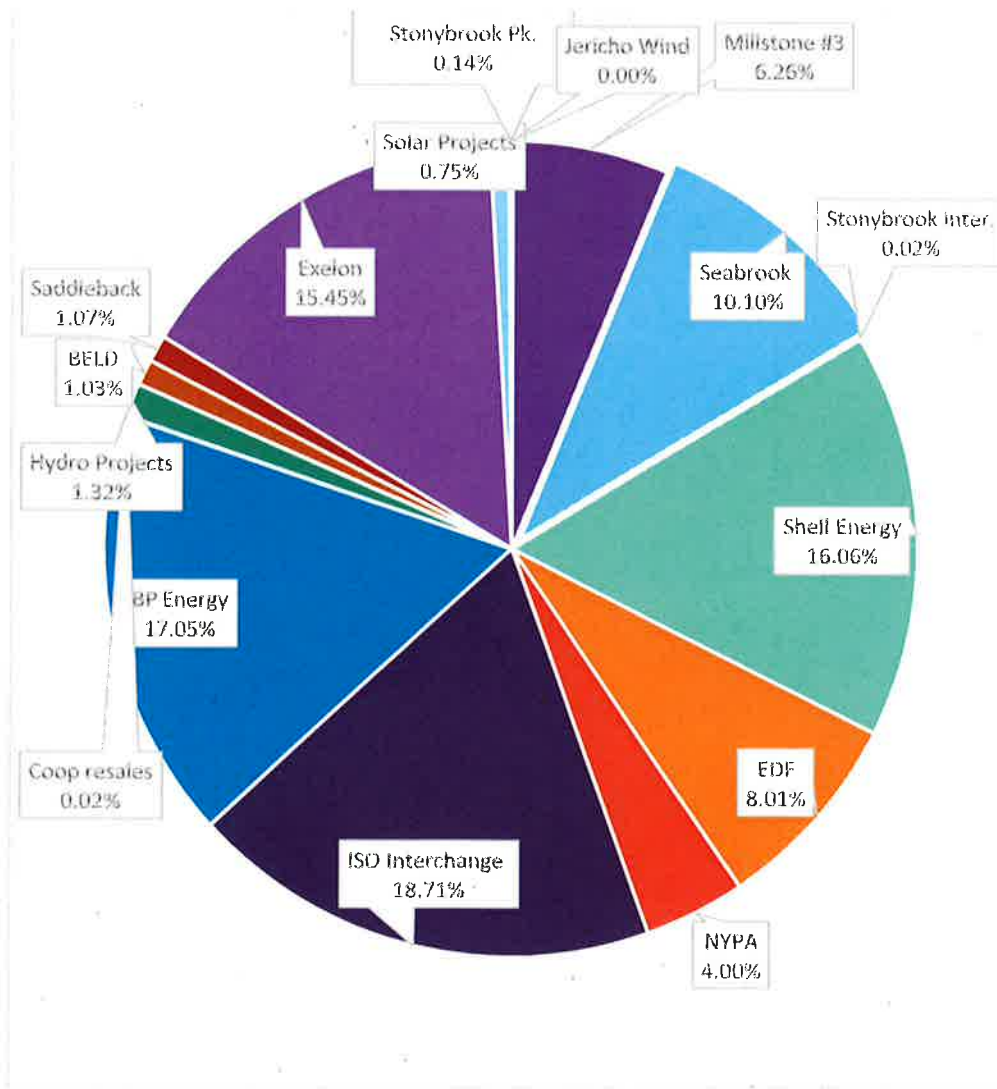
Table 2 breaks down the ISO interchange between the DA LMP Settlement and the RT Net Energy for the month of September, 2017.

**Table 2**

Resource	Amount of Energy (kWh)	Cost of Energy (\$/Mwh)	% of Total Energy
ISO DA LMP *	15,057,544	\$29.47	26.68%
RT Net Energy **	(4,499,004)	\$15.73	-7.97%
ISO Interchange (subtotal)	10,558,540	\$35.13	18.71%

\* Independent System Operator Day-Ahead Locational Marginal Price

**SEPTEMBER 2017 ENERGY BY RESOURCE**



## CAPACITY

The RMLD hit a demand of 127,181 kW, which occurred on September 27, at 4 pm. The RMLD's monthly UCAP requirement for September, 2017 was 220,648 kW.

Table 3 shows the sources of capacity that the RMLD utilized to meet its requirements.

**Table 3**

Source	Amount (kW)	Cost (\$/kW-month)	Total Cost \$	% of Total Cost
Millstone #3	4,950	26.90	\$133,142	6.14%
Seabrook	7,909	22.87	\$180,864	8.35%
Stonybrook Peaking	24,980	2.31	\$57,717	2.66%
Stonybrook CC	42,925	3.34	\$143,404	6.62%
NYPA	0	0.00	-\$10,792	-0.50%
Hydro Quebec	0	0	-\$37,665	-1.74%
Braintree Watson Unit	0	0.00	\$31,484	1.45%
ISO-NE Supply Auction	139,884	11.93	\$1,668,529	77.01%
<b>Total</b>	<b>220,648</b>	<b>\$9.82</b>	<b>\$2,166,683</b>	<b>100.00%</b>

Table 4 shows the dollar amounts for energy and capacity per source.

**Table 4**

Resource	Energy	Capacity	Total cost	% of Total Cost	Amt of Energy (kWh)	Cost of Power (\$/kWh)
Millstone #3	\$23,743	\$133,142	\$156,885	3.78%	3,532,365	0.0444
Seabrook	\$33,783	\$180,864	\$214,647	5.17%	5,698,670	0.0377
Stonybrook Intermediate	\$1,494	\$143,404	\$144,899	3.49%	13,875	10.4431
Hydro Quebec	\$0	-\$37,665	-\$37,665	-0.91%	-	0.0000
Shell Energy	\$531,240	\$0	\$531,240	12.80%	9,064,000	0.0586
NextEra/EDF	\$113,793	\$0	\$113,793	2.74%	4,520,000	0.0252
* NYPA	\$11,111	-\$10,792	\$320	0.01%	2,258,398	0.0001
ISO Interchange	\$370,896	\$1,668,529	\$2,039,425	49.15%	10,558,540	0.1932
Nema Congestion	\$8,032	\$0	\$8,032	0.19%	147,323	0.0545
BP Energy	\$450,211	\$0	\$450,211	10.85%	9,624,000	0.0468
* Hydro Projects	\$52,525	\$0	\$52,525	1.27%	744,852	0.0705
Braintree Watson Unit	\$23,393	\$31,484	\$54,877	1.32%	581,106	0.0944
* Saddleback/Jericho	\$46,160	\$0	\$46,160	1.11%	604,315	0.0764
* Burlington & Community Solar	\$30,251	\$0	\$30,251	0.73%	275,447	0.1098
Coop Resales	\$2,156	\$0	\$2,156	0.05%	13,894	0.1552
Exelon Energy	\$264,232	\$0	\$264,232	6.37%	8,720,000	0.0303
Stonybrook Peaking	\$19,772	\$57,717	\$77,489	1.87%	80,407	0.9637
<b>Monthly Total</b>	<b>\$1,982,794</b>	<b>\$2,166,683</b>	<b>\$4,149,477</b>	<b>100.00%</b>	<b>56,437,192</b>	<b>0.0735</b>
<b>* Renewable Resources</b>					<b>6.88%</b>	

## RENEWABLE ENERGY CERTIFICATES (RECs)

Table 5 shows the amount of banked and projected RECs for the Swift River Hydro Projects through September, as well as their estimated market value.

**Table 5**  
**RECs Summary**  
**Period - January 2017 - September 2017**

	<b>Banked RECs</b>	<b>Projected RECs</b>	<b>Total RECs</b>	<b>Est. Dollars</b>
Woronoco	0	5,155	5,155	\$82,480
Pepperell	0	2,913	2,913	\$46,608
Indian River	0	1,552	1,552	\$24,833
Turners Falls	0	1,280	1,280	\$20,480
Saddleback	0	9,347	9,347	\$149,552
Jericho	0	4,286	4,286	\$68,576
<b>Sub total</b>	<b>0</b>	<b>24,533</b>	<b>24,533</b>	<b>392,529</b>
RECs Sold	\$0		0	\$0
<b>Grand Total</b>	<b>0</b>	<b>24,533</b>	<b>24,533</b>	<b>\$392,529</b>

## TRANSMISSION

The RMLD's total transmission costs for the month of September, 2017 were \$1,351,323. This is a decrease of 4.43% from the August transmission cost of \$1,414,026. In September, 2016 the transmission costs were \$1,540,298.

**Table 6**

	<b>Current Month</b>	<b>Last Month</b>	<b>Last Year</b>
Peak Demand (kW)	127,181	140,722	143,166
Energy (kWh)	56,437,192	62,759,403	57,965,937
Energy (\$)	\$1,982,794	\$2,548,601	\$2,769,221
Capacity (\$)	\$2,166,683	\$2,053,870	\$1,666,347
Transmission(\$)	\$1,351,323	\$1,414,026	\$1,540,298
Total	\$5,500,800	\$6,016,497	\$5,975,866

# POWER SUPPLY RISK MANAGEMENT STRATEGY ATTACHMENT 4





Reading Municipal Light Department

# Risk Management Strategy

November 9, 2017

# Objectives

- ▶ Mitigate risk
- ▶ Stabilize rates
- ▶ Optimize ability to secure lower pricing

# Current Strategy

- ▶ Historically, RMLD has procured its firm energy purchases annually using a laddering and layering approach which procures power for the next four years
- ▶ Ladder and layer contracts diversify contract duration and type
- ▶ Annual RFPs are only for a portion of future requirements
- ▶ Allows RMLD to manage evolving regulatory rules and future price trends

# Laddering and Layering Approach

- ▶ Currently, RMLD looks out every four years and secures pricing after receiving both CAB and Board approval.
- ▶ Administrative processes currently limit RMLD's ability to take advantage of dynamic pricing opportunities
- ▶ Requires extensive labor hours and costly legal expenses
- ▶ Provides the value of dollar cost averaging, however, does not build a "portfolio" of prices that should be at/or below the final market settle

# Historical Laddering and Layering Results

# of years	Term	Supplier	Mwhs	Type	\$/Mwh
4 years	1/1/14 - 12/31/17	BP Energy	451,131	ATC	\$47.42
4 years	1/1/15 - 12/31/18	Shell Energy	463,067	ATC	\$63.09
3 years	1/1/16 - 12/31/18	Exelon	294,233	ATC	\$47.68
1 year	1/1/19 - 12/31/19	NextEra	110,262	ATC	\$45.95
2 year	1/1/17 - 12/31/18	EDF Trading	98,752	ATC	\$37.57
2 year	1/1/19 - 12/31/20	Exelon	171,547	ATC	\$39.31

ATC = Around the Clock

# Improved Risk Management Strategy

- ▶ A better approach to procuring energy would be to buy smaller quantities over time.
  - ▶ This would allow RMLD to respond to market price changes - buying more when prices are low and less when prices are high.
  - ▶ Similar to “dollar cost averaging” in building a stock portfolio.
- ▶ This approach comes under best utilities standards practice.

# Improved Risk Management Strategy

## ▶ Two “buying triggers”

### 1. Price triggers

- ▶ When price is below long-term average (4 years)

- ▶ Four years represents the period of time over which prices have cycled between low and high extremes.

- ▶ Build “portfolio” of prices that should be at/or below the final market settle.

### 2. Time triggers

- ▶ As the purchase date approaches

- ▶ Final protection against spot volatility

- ▶ Smooth out price variations - “dollar cost averaging”

# Price Triggers

Target Price Percentile	Percent of Target Volume To Purchase				
	Current Year	Year 2	Year 3	Year 4	Year 5
50 <sup>th</sup> %	60%	40%	20%	0%	0%
40 <sup>th</sup> %	70%	50%	30%	10%	0%
30 <sup>th</sup> %	80%	60%	40%	20%	0%
20 <sup>th</sup> %	90%	70%	50%	30%	10%
10 <sup>th</sup> %	100%	80%	60%	40%	20%

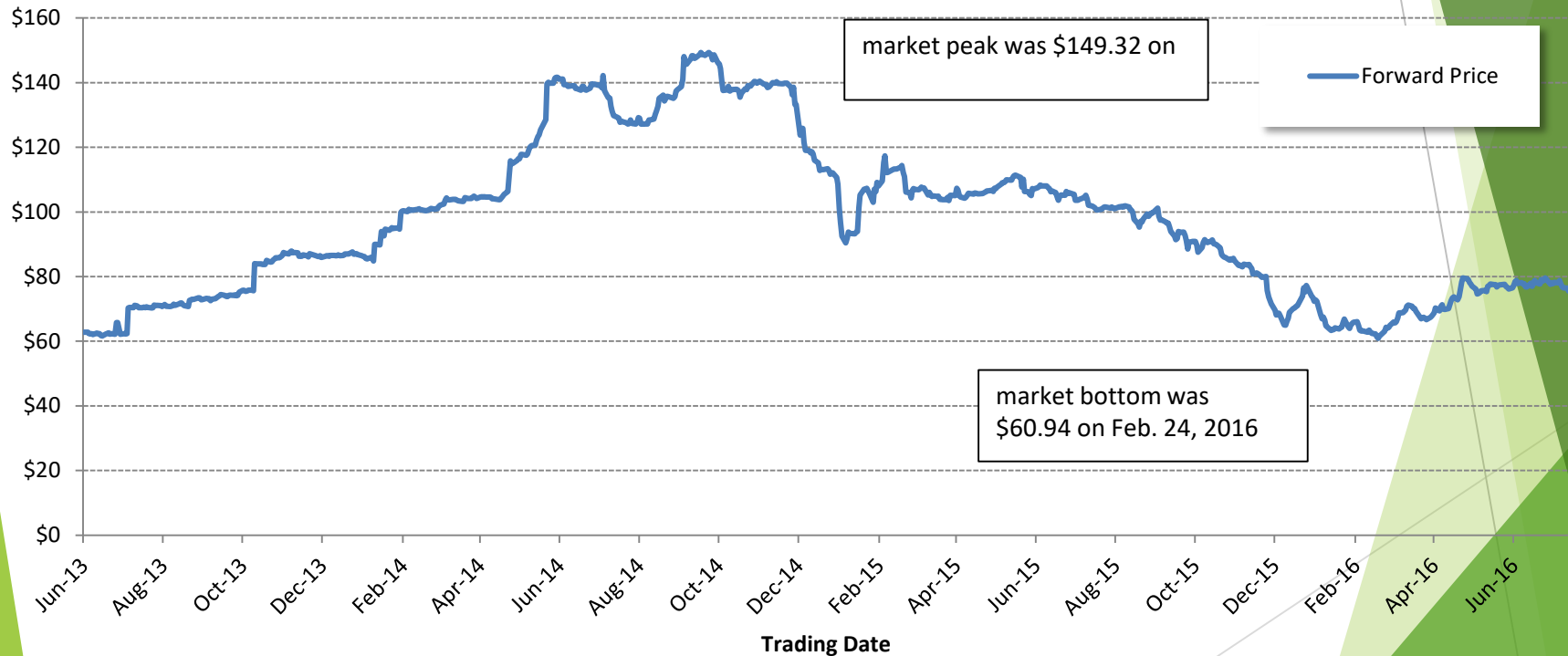


# Time Triggers

- ▶ Recommended time triggers
  - ▶ 12 months prior lock in 25%
  - ▶ 9 months prior lock in 50%
  - ▶ 6 months prior lock in 75%
  - ▶ 3 months prior lock in 100%
- ▶ These represent a percentage of the TARGET position, not the entire open position, i.e., 90% of the on-peak load during January and February.

# Example of Market Price Fluctuation

## January 2017 On-Peak Energy Price



# Why Have a Risk Management Strategy?

- ▶ A consistently applied Risk Management Strategy will remove speculative judgement from decisions to purchase energy.
- ▶ A Risk Management Strategy will permit RMLD to take advantage of price opportunities consistently over the next several years and beyond.
- ▶ This strategy will allow RMLD to secure monthly quantities that are below the four year average versus locking in annual quantities.
- ▶ A strategy of utilizing time triggers will smooth out variations in the market over time.

# Motion

Move that RMLD Board of Commissioners accept the Risk Management Strategy as presented, and authorize the General Manager to enter in purchase power agreements that satisfy the criteria set forth in the Risk Management Strategy. As a matter of protocol, the Department will provide a report on transactions relative to this strategy.

ENGINEERING & OPERATIONS  
REPORT  
JULY, AUGUST, and SEPTEMBER 2017  
ATTACHMENT 5



# Engineering & Operations Report

RMLD Board of Commissioners Meeting

November 9, 2017

July through September 2017 Reporting Period

Hamid Jaffari, Director of Engineering & Operations

# Capital Improvement Projects

## Engineering & Operations

PROJ #	CONSTRUCTION	% COMPLETE	JUL	AUG	SEP	YTD	FY18 BUDGET	REMAINING BALANCE
106	Underground Facilities Upgrades (URD's, Manholes, etc.) <ul style="list-style-type: none"> <li>Aspen Road, North Reading</li> <li>Haverhill Street, North Reading</li> </ul>	On-going		2,308	35,009	37,317	344,725	307,408
107	13.8kV Upgrade (Step-down areas, etc.) <ul style="list-style-type: none"> <li>Forrest Glen Road, Reading</li> </ul>	On-going	1,658			1,658	70,851	69,193
108	115 kV Transmission Line Upgrade	15%		4,494	873	5,367	95,098	89,731
137	Pole Line Upgrade – Woburn Street, W	10%	1,200			1,200	200,284	199,084
175	Pole Replacement Program	On-going	12,001	38,307	6,318	56,627	209,000	152,373
458	Secondary & Main Replacement Program	On-going	5,362	18,542	3,599	27,503	222,285	194,782
Various	New Service Installations (Commercial/Industrial)	On-going	10,830	4,141	9,826	24,796	155,936	131,140
Various	Routine Construction (detail on next slide)	On-going	37,926	97,650	143,874	279,450	1,043,891	764,441

# Routine Capital Construction Detail

	JUL	AUG	SEP	YTD
Pole Setting/Transfers	7,387	15,438	8,080	30,906
Overhead/Underground	5,293	28,344	42,236	75,873
Projects Assigned as Required <ul style="list-style-type: none"> <li>Voltage Regulators, Lynnfield</li> </ul>	-	25,376	50,744	76,120
Pole Damage/Knockdowns - Some Reimbursable <ul style="list-style-type: none"> <li>Work was done to repair or replace nine (9) poles.</li> </ul>	955	4,399	24,046	29,400
Station Group	556	9,083	352	9,991
Hazmat/Oil Spills	-	-	-	-
Porcelain Cutout Replacement Program	-	-	-	-
Lighting (Street Light Connections)	-	-	-	-
Storm Trouble	83	1,425	\$0	1,508
Underground Subdivisions (new construction) <ul style="list-style-type: none"> <li>Garden of Eden, Wilmington</li> <li>Murray Hill Subdivision (Phase 2), Wilmington</li> </ul>	21,028	16,815	\$10,837	48,680
Animal Guard Installation	415	0	\$0	415
Miscellaneous Capital Costs	2,209	(3,230)	\$7,580	6,559



# Capital Improvement Projects

## Engineering & Operations (continued)

PROJ #	STATION UPGRADES	% COMPLETE	JUL	AUG	SEP	YTD	FY18 BUDGET	REMAINING BALANCE
100	Distributed Gas Generator, NR	99%	21,696	15,696	97,775	135,167	-	(135,167)
105	New Wilmington Sub-Station, W	5%		6,439	1,992	8,431	650,000	641,569
109	35 kV Underground Cable Upgrade Station 4, 5 and RR ROW, R/W	0%				-	206,817	206,817
110	Station 4: 4W9 Getaway Replacement, R	100%	1,769	64,007	25,202	90,977	-	(90,977)
111	Substation Equipment Upgrade	On-going				-	50,218	50,218
130	Station 3: Remote Terminal Unit (RTU) Replacement, NR	100%	434	1,627	227	2,288	-	(2,288)
133	Station 3: Relay Upgrades and SCADA Integration, NR	100%	959	16,859	1,985	19,803	76,103	56,300
138	Station 3 Reactor, NR	20%		76	10,285	10,361	561,347	550,986

# Capital Improvement Projects

## Engineering & Operations (continued)

PROJ #	SYSTEM PROJECTS & CAPITAL PURCHASES	% COMPLETE	JUL	AUG	SEP	YTD	FY18 BUDGET	REMAINING BALANCE
102	Pad Mount Switchgear Upgrade at Industrial Parks, W	7%	110,924	115,176		226,100	196,285	(29,815)
103	Grid Modernization and Optimization , All Towns	On-going	19,950	20,785	(462)	40,273	227,183	186,910
112	AMI Mesh Network Expansion, All Towns	On-going				-	120,311	120,311
125	GIS	99%	19,375	13,535	23,797	56,707	218,726	162,019
126	Communication Equipment (Fiber Optic), All Towns	On-going				-	214,629	214,629
131	LED Street Light Implementation, All Towns	78%	84,527	108,639	41,020	234,185	1,169,332	935,147
116	Transformers and Capacitors (purchase), All Towns	On-going				-	560,500	560,500
117	Meters (purchase), All Towns	On-going			1,659	1,659	60,000	58,341

# Other Capital Projects/Purchases

## (Facilities, IRD, IT)

PROJ #		% COMPLETE	JUL	AUG	SEP	YTD	FY18 BUDGET	REMAINING BALANCE
	<b><u>Facilities:</u></b>							
096	Control Center Modifications	45%		156	33,515	33,671	-	(33,671)
097	Power Washer and Vacuum	10%				-	20,000	20,000
121	Remote SCADA Room	0%				-	75,000	75,000
104	RMLD Lighting (LED) Upgrade	0%				-	100,000	100,000
095	Building Upgrades	On-going				-	110,000	110,000
098	Office Upgrades	On-going				-	92,000	92,000
119	Security Upgrades All Sites	On-going				-	30,000	30,000
118	Rolling Stock Replacement	On-going		19,863		19,863	230,000	210,137
	<b><u>Integrated Resources:</u></b>							
099	Electric Vehicle Supply Equipment	10%		2,558	6,065	8,623	10,000	1,377
101	Flow Battery Energy Storage Unit	0%				-	25,000	25,000
	<b><u>Information Technology:</u></b>							
127	Computer Hardware Upgrades	On-going	3,198	665	3,353	7,216	105,000	97,784
128	Computer Software and Licensing	On-going				-	235,000	235,000



# TOTAL CAPITAL SPENDING YTD

(ALL DIVISIONS)

JUL	AUG	SEP	YTD	FY18 BUDGET	REMAINING BALANCE
\$331,808	\$551,524	\$445,912	\$1,329,244	\$7,685,521	\$6,356,277

# Routine Maintenance

## ► Transformer Replacement (through August 2017)

Pad mount 26.68%                      Overhead 18.11%

## ► Pole Inspection (as of 8/24/17)

243 poles have been replaced                      141 of 243 transfers have been completed

## ► Quarterly Inspection of Feeders (as of 8/22/17)

*Inspected Circuits (Jan-Mar):* 3W5, 3W6, 3W7, 3W8, 3W13, 3W14, 3W15, 3W18, 4W4, 4W5, 4W6, 4W7, 4W9, 4W23, 4W24, 5W4, 5W5, 5W8, 5W9, 4P9, 4P2

*Inspected Circuits (Apr-Jun):* 4W10, 4W12, 4W13

*Inspected Circuits (Jul-Sep):* 3W5, 3W7, 3W8, 3W13, 3W14, 3W18

## ► Manhole Inspection (through September 2017)

961 of 1,237 manholes have been inspected.

## ► Porcelain Cutout Replacements (through September 2017)

91% complete                      249 remaining to be replaced

## ► Tree Trimming

July: 84 spans                      Aug: 105 spans                      Sept: 175 spans                      YTD: 364 through September

## ► Substation Maintenance

Infrared Scanning – through September complete - no hot spots found

# Double Poles

➤ Ownership: 16,000 (approximately)

50% RMLD

50% Verizon

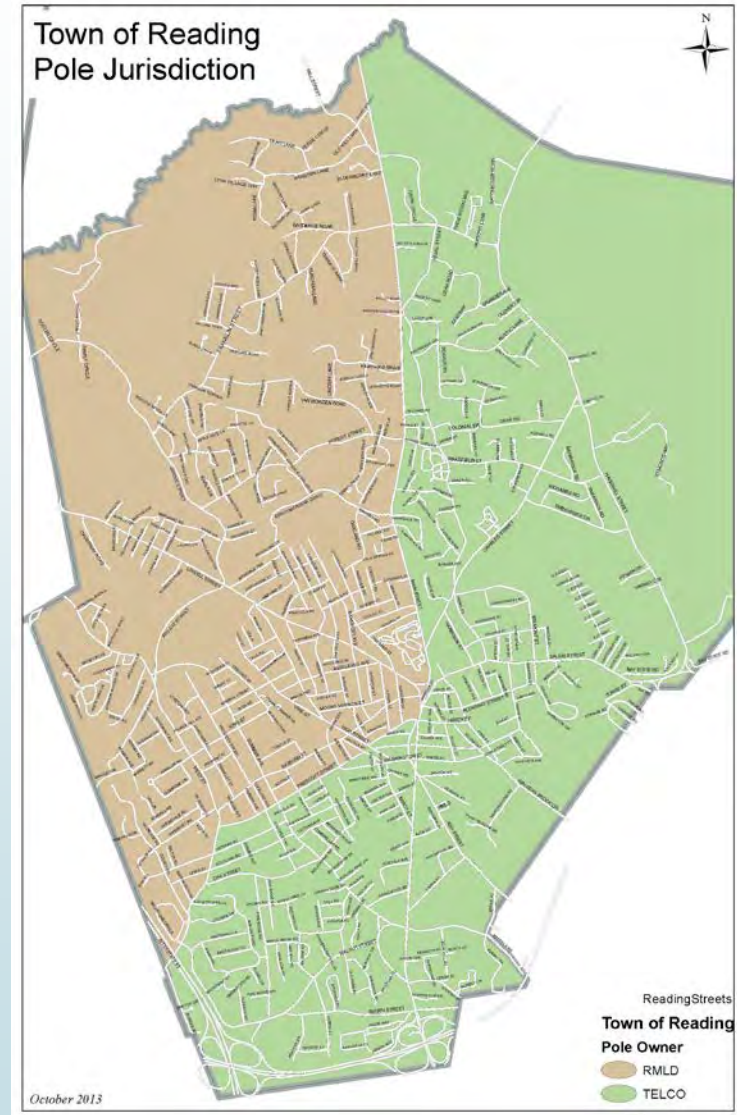
➤ Custodial:

Reading – split (see map) →

North Reading – RMLD

Lynnfield – Verizon

Wilmington - Verizon



# NJUNS

"Next to Go" as of October 30, 2017

LYNNFIELD	
NTG Member and JobType	Count of Ticket Number
CMCTNR	5
Comcast Massachusetts TRANSFER	5
LFLDFD	3
Lynnfield Fire Department TRANSFER	3
RMLD	5
Reading Municipal Light Department TRANSFER	5
VZNESEA	4
Verizon Massachusetts TRANSFER	4
(blank)	
<b>Grand Total</b>	<b>17</b>

READING	
NTG Member and JobType	Count of Ticket
CMCTNR	6
Comcast Massachusetts TRANSFER	6
NP3PMA	8
Non-participating 3rd Party Attacher - Massachusetts TRANSFER	8
RDNGFD	6
Reading Fire Department TRANSFER	6
RMLD	92
Reading Municipal Light Department TRANSFER	27
PULL POLE	65
VZNESEA	40
Verizon Massachusetts TRANSFER	40
(blank)	
<b>Grand Total</b>	<b>152</b>

NORTH READING	
NTG Member and JobType	Count of Ticket Number
CMCTNR	6
Comcast Massachusetts TRANSFER	6
NGMA	1
National Grid TRANSFER	1
NRDGFDD	37
North Reading Fire Department TRANSFER	37
RMLD	44
Reading Municipal Light Department TRANSFER	13
PULL POLE	31
VZNEEDR	22
Verizon Massachusetts TRANSFER	19
PULL POLE	3
(blank)	
<b>Grand Total</b>	<b>110</b>

WILMINGTON	
NTG Member and JobType	Count of Ticket Number
CMCTNR	4
Comcast Massachusetts TRANSFER	4
NP3PMA	1
Non-participating 3rd Party Attacher - Massachusetts TRANSFER	1
NPFAMA	4
Non-participating Fire Alarms - Massachusetts TRANSFER	4
RMLD	33
Reading Municipal Light Department TRANSFER	29
PULL POLE	4
VZBMA	1
Verizon Massachusetts Business TRANSFER	1
VZNEEDR	56
Verizon Massachusetts TRANSFER	53
PULL POLE	3
WILMFIB	10
Town of Wilmington TRANSFER	10
WMGNFD	72
Wilmington Fire Department TRANSFER	72
(blank)	
<b>Grand Total</b>	<b>181</b>

# Questions ?





RMLD PROCUREMENT REQUESTS  
REQUIRING BOARD APPROVAL  
ATTACHMENT 6



**Reading Municipal Light Department**  
RELIABLE POWER FOR GENERATIONS

230 Ash Street  
P.O. Box 150  
Reading, MA 01867-0250

Tel: (781) 944-1340  
Fax: (781) 942-2409  
Web: www.rmld.com

October 30, 2017

Town of Reading Municipal Light Board

Subject: IFB 2018-11: Tree Trimming Services

Pursuant to M.G.L c. 30 § 39M, on September 20, 2017, an invitation for bid was placed as a legal notice in the Middlesex East Section of the Daily Chronicle, the Central Register, and on the RMLD and COMMBUYS websites requesting sealed bids for Tree Trimming Services.

An invitation for bid was sent to the following twelve companies:

Asplundh  
Cicoria Tree Service  
Favreau Forestry, LLC  
Lewis Tree Service

Lucas Tree Experts  
Mayer Tree Service, Inc.  
Nelson Tree Service, Inc.  
Northern Tree Service

Northeastern Tree  
The Davey Tree Expert Company  
Tree Tech, Inc.  
Viking Tree Service

Sealed bids were received from two companies: The Davey Tree Expert Company and Mayer Tree Service, Inc.

The sealed bids were publicly opened and read aloud at 11:00 a.m. on October 11, 2017, in the Town of Reading Municipal Light Department's Audio Visual Spurr Room, 230 Ash Street, Reading, Massachusetts.

The bids were reviewed, analyzed and evaluated by staff and recommended to the General Manager.

Move that bid IFB 2018-11 for: Tree Trimming Services be awarded to: **Mayer Tree Service, Inc.**, pursuant to M.G.L c. 30 § 39M, as the lowest responsible and eligible bidder on the recommendation of the General Manager. This is a one-year contract beginning January 1, 2018, with an RMLD option for two additional one-year terms.

These services will be paid from the fiscal year Operating Budget(s).

  
\_\_\_\_\_  
John McDonagh

  
\_\_\_\_\_  
Hamid Jaffari

  
\_\_\_\_\_  
Coleen O'Brien

IFB 2018-11: Tree Trimming Services

MAYER TREE										THE DAVEY TREE EXPERT COMPANY											
		YEAR 1			YEAR 2			YEAR 3					YEAR 1			YEAR 2			YEAR 3		
<b>A. SPANS</b>																					
Price per Span (8 foot cut)		\$144			\$144			\$144			\$139		\$142			\$146					
Average Price per Day (8 spans)		\$1,152			\$1,152			\$1,152			\$1,112		\$1,136			\$1,168					
Average Price per week (40 spans)		\$5,760			\$5,760			\$5,760			\$5,560		\$5,680			\$5,840					
Average Annual Total (50 weeks)		\$288,000			\$288,000			\$288,000			\$278,000		\$284,000			\$292,000					
<b>B. (HAZARDOUS) TREE REMOVALS:</b>																					
Diameter Class (DBH) Unit Rates																					
1.5" <= 6"		\$35			\$35			\$35			\$55		\$56			\$57					
6" <= 12"		\$149			\$149			\$149			\$166		\$170			\$174					
12" <= 18"		\$298			\$298			\$298			\$333		\$341			\$350					
18" <= 24"		\$565			\$565			\$565			\$677		\$694			\$711					
24" <= 32"		\$1,246			\$1,246			\$1,246			\$999		\$1,024			\$1,050					
32" >+		\$1,790			\$1,790			\$1,790			\$1,997		\$2,047			\$2,098					
<b>TOTAL</b>		<b>\$4,083</b>			<b>\$4,083</b>			<b>\$4,083</b>			<b>\$4,227</b>		<b>\$4,332</b>			<b>\$4,440</b>					
<b>C. HOURLY RATES</b>																					
		STRAIGHT TIME	OVERTIME		STRAIGHT TIME	OVERTIME		STRAIGHT TIME	OVERTIME		STRAIGHT TIME	OVERTIME		STRAIGHT TIME	OVERTIME		STRAIGHT TIME	OVERTIME			
Foreman		\$52.00	\$67.00	\$119.00	\$52.00	\$67.00	\$119.00	\$52.00	\$67.00	\$119.00	\$34.74	\$46.90	\$81.64	\$35.78	\$48.30	\$84.08	\$36.85	\$49.75	\$86.60		
Climber		\$52.00	\$67.00	\$119.00	\$52.00	\$67.00	\$119.00	\$52.00	\$67.00	\$119.00	\$30.84	\$41.63	\$72.47	\$31.76	\$42.88	\$74.64	\$32.71	\$44.16	\$76.87		
Ground Hand		\$45.00	\$57.00	\$102.00	\$45.00	\$57.00	\$102.00	\$45.00	\$57.00	\$102.00	\$30.84	\$41.63	\$72.47	\$31.76	\$42.88	\$74.64	\$32.71	\$44.16	\$76.87		
General Foreman		\$52.00	\$67.00	\$119.00	\$52.00	\$67.00	\$119.00	\$52.00	\$67.00	\$119.00	\$46.26	\$62.45	\$108.71	\$47.64	\$64.31	\$111.95	\$49.07	\$66.24	\$115.31		
Crane Operator		\$52.00	\$67.00	\$119.00	\$52.00	\$67.00	\$119.00	\$52.00	\$67.00	\$119.00	\$97.65	\$131.83	\$229.48	\$100.58	\$135.78	\$236.36	\$103.60	\$139.86	\$243.46		
Loader Operator		\$52.00	\$67.00	\$119.00	\$52.00	\$67.00	\$119.00	\$52.00	\$67.00	\$119.00	\$82.16	\$110.92	\$193.08	\$84.62	\$114.24	\$198.86	\$87.16	\$117.67	\$204.83		
Mower Operator		\$52.00	\$67.00	\$119.00	\$52.00	\$67.00	\$119.00	\$52.00	\$67.00	\$119.00	\$96.80	\$130.68	\$227.48	\$99.70	\$134.60	\$234.30	\$102.69	\$138.63	\$241.32		
<b>TOTAL</b>		<b>\$357.00</b>	<b>\$459.00</b>	<b>\$816.00</b>	<b>\$357.00</b>	<b>\$459.00</b>	<b>\$816.00</b>	<b>\$357.00</b>	<b>\$459.00</b>	<b>\$816.00</b>	<b>\$419.29</b>	<b>\$566.04</b>	<b>\$985.33</b>	<b>\$431.84</b>	<b>\$582.99</b>	<b>\$1,014.83</b>	<b>\$444.79</b>	<b>\$600.47</b>	<b>\$1,045.26</b>		
<b>ANNUAL TOTALS:</b>		<b>\$292,899.00</b>			<b>\$292,899.00</b>			<b>\$292,899.00</b>			<b>\$283,212.33</b>		<b>\$289,346.83</b>			<b>\$297,485.26</b>					
<b>GRAND TOTAL (THREE-YEAR CONTRACT)</b>		<b>\$878,697.00</b>									<b>\$870,044.42</b>										

NOTE: These costs are provided for bid comparison purposes only.

PURCHASING NOTES: Davey bid did not meet mandatory requirements, i.e. incomplete documentation.



230 Ash Street  
P.O. Box 150  
Reading, MA 01867-0250

Tel: (781) 944-1340  
Web: www.rml.com

October 30, 2017

Town of Reading Municipal Light Board

Subject: IFB 2018-12 Current Limiting Reactor Construction and Installation at Station 3

Pursuant to M.G.L c. 30 § 39M, on September 13, 2017, an invitation for bid was placed as a legal notice in the Middlesex East Section of the Daily Chronicle, the Central Register, and on the RMLD and COMMBUYS websites requesting sealed bids for Current Limiting Reactor Construction and Installation at Station 3.

An invitation for bid was sent to the following twenty companies:

- |                                   |                                    |   |
|-----------------------------------|------------------------------------|---|
| Albanese Brothers, Inc.           | ConstructConnect                   | Construction Journal                    |
| ElecComm Corp.                    | Fischbach & Moore                  | GEOD Consulting                         |
| Grattan Line Construction Corp.   | Hamilton Electric Co., Inc.        | Hi Volt Line Construction & Maintenance |
| K.B. Aruda Construction, Inc.     | Mass Bay Electrical Corp.          | Maverick Construction                   |
| McDonough Electric Construction   | Murphy Valiant Electric, LLC       | N. Granese & Sons, Inc.                 |
| Northeast Line Construction Corp. | OSP, LLC                           | Ostrow Electric Company                 |
| Power Line Contractors, Inc.      | Utility Service & Assistance, Inc. |   |

Sealed bids were received from three companies: Mass Bay Electrical Corp., Murphy Valiant Electric, LLC, and Power Line Contractors, Inc.

The sealed bids were publicly opened and read aloud at 11:00 a.m., October 4, 2017, in the Town of Reading Municipal Light Department's Audio Visual Spurr Room, 230 Ash Street, Reading, Massachusetts.

The bids were reviewed, analyzed and evaluated by staff and recommended to the General Manager.

Move that bid IFB 2018-12 for: Current Limiting Reactor Construction and Installation at Station 3 be awarded to: **Mass Bay Electrical Corp. for \$153,920**, pursuant to M.G.L c. 30 § 39M, as the lowest responsible and eligible bidder on the recommendation of the General Manager.

The FY18 Capital Budget amount for this item is \$165,000.

  
\_\_\_\_\_  
Nick D'Alleva

  
\_\_\_\_\_  
Hamid Jaffari

  
\_\_\_\_\_  
Coleen O'Brien

**Current Limiting Reactor Construction and Installation at Station 3  
IFP 2018-12**

<b>Bidder</b>	<b><u>Total Price</u></b>	<b><u>Firm Price</u></b>	<b><u>All forms filled out</u></b>	<b><u>Certified Check or Bid Bond</u></b>	<b><u>Exceptions to stated bid requirements</u></b>	<b><u>Authorized signature</u></b>
<b>Mass Bay Electrical Corp. Reactor - Station 3</b>	<b>\$153,920</b>	<b>yes</b>	<b>yes</b>	<b>yes</b>	<b>no</b>	<b>yes</b>
<b>Murphy Valiant Electric, LLC Reactor - Station 3</b>	<b>\$159,910</b>	<b>yes</b>	<b>yes</b>	<b>yes</b>	<b>yes</b>	<b>yes</b>
	<b><u>Exception:</u></b>	Submitted bid states "This proposal is valid for 30 days"; bid requires 60 days.				
<b>Power Line Contractors, Inc. Reactor - Station 3</b>	<b>\$183,831</b>	<b>yes</b>	<b>yes</b>	<b>yes</b>	<b>no</b>	<b>yes</b>

BOARD MATERIAL AVAILABLE  
BUT NOT DISCUSSED

**From:** [Tracy Schultz](#)  
**To:** [RMLD Board Members Group](#)  
**Cc:** [Jeanne Foti](#)  
**Subject:** AP and Payroll for November Board Book  
**Date:** Wednesday, November 01, 2017 1:00:00 PM

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There were no Commissioner questions on the 9.8.17, 9.15.17, 9.22.17, 9.29.17, 10.6.17, 10.13.17, 10.20.17, and 10.27.17 AP.

There were no Commissioner questions on the 9.18.17, 10.2.17, 10.16.17, and 10.30.17 Payroll.

This e-mail will be included in the 11-9-17 Board Book.

Tracy Schultz  
Executive Assistant  
**Reading Municipal Light Department**  
230 Ash Street. Reading. MA. 01867  
Tel: 781.942.6489

TOWN OF READING MUNICIPAL LIGHT DEPARTMENT  
RATE COMPARISONS READING & SURROUNDING TOWNS

**November-17**

	RESIDENTIAL 750 kWh's	RESIDENTIAL-TOU 1500 kWh's 75/25 Split	RES. HOT WATER 1000 kWh's	COMMERCIAL 7,300 kWh's 25.000 kW Demand	SMALL COMMERCIAL 1,080 kWh's 10.000 kW Demand	SCHOOL RATE 35000 kWh's 130.5 kW Demand	INDUSTRIAL - TOU 109,500 kWh's 250.000 kW Demand 80/20 Split
<b>READING MUNICIPAL LIGHT DEPT.</b>							
TOTAL BILL	\$114.75	\$198.35	\$139.16	\$999.11	\$195.11	\$4,656.40	\$760,653.49
PER KWH CHARGE	\$0.15300	\$0.13224	\$0.13916	\$0.13686	\$0.18066	\$0.13304	\$0.11057
<b>NATIONAL GRID</b>							
TOTAL BILL	\$176.21	\$407.40	\$220.64	\$1,684.69	\$257.76	\$6,411.12	\$1,169,516.60
PER KWH CHARGE	\$0.23494	\$0.27160	\$0.22064	\$0.23078	\$0.23867	\$0.18317	\$0.17000
% DIFFERENCE	53.56%	105.39%	58.55%	68.62%	32.11%	37.68%	53.75%
<b>EVERSOURCE(NSTAR)</b>							
TOTAL BILL	\$146.81	\$260.13	\$193.60	\$1,433.47	\$238.48	\$6,948.02	\$1,185,688.95
PER KWH CHARGE	\$0.19574	\$0.17342	\$0.19360	\$0.19637	\$0.22081	\$0.19851	\$0.17235
% DIFFERENCE	27.94%	31.14%	39.12%	43.47%	22.23%	49.21%	55.88%
<b>PEABODY MUNICIPAL LIGHT PLANT</b>							
TOTAL BILL	\$83.33	\$160.46	\$109.04	\$976.04	\$154.58	\$4,822.98	\$660,645.16
PER KWH CHARGE	\$0.11111	\$0.10697	\$0.10904	\$0.13370	\$0.14313	\$0.13780	\$0.09603
% DIFFERENCE	-27.38%	-19.11%	-21.64%	-2.31%	-20.77%	3.58%	-13.15%
<b>MIDDLETON MUNICIPAL LIGHT DEPT.</b>							
TOTAL BILL	\$98.74	\$201.66	\$132.75	\$959.51	\$168.44	\$4,762.93	\$807,171.40
PER KWH CHARGE	\$0.13165	\$0.13444	\$0.13275	\$0.13144	\$0.15596	\$0.13608	\$0.11733
% DIFFERENCE	-13.95%	1.67%	-4.61%	-3.96%	-13.67%	2.29%	6.12%
<b>WAKEFIELD MUNICIPAL LIGHT DEPT.</b>							
TOTAL BILL	\$126.74	\$235.92	\$159.38	\$1,202.79	\$191.68	\$5,648.08	\$955,959.30
PER KWH CHARGE	\$0.16898	\$0.15728	\$0.15938	\$0.16477	\$0.17749	\$0.16137	\$0.13896
% DIFFERENCE	10.44%	18.94%	14.53%	20.39%	-1.76%	21.30%	25.68%