

**READING MUNICIPAL  
LIGHT DEPARTMENT**

**BOARD OF COMMISSIONERS**

**REGULAR SESSION**

**THURSDAY MAY 23, 2019**

PRESENTATION OF THE 2018 AUDIT  
MELANSON HEATH & P.C.  
ATTACHMENT 1

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

**Annual Financial Statements**

**For the 6-Month Period Ended December 31, 2018**

**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 6-month period ended December 31, 2018 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 December 31, 2018, and the respective changes in financial position and, where applicable, cash flows thereof for the 6-month period then ended in accordance with accounting principles generally accepted in the United States of America.

## **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 39 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.

\_\_\_\_\_, 2019

## 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 6-month period ended December 31, 2018. 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 Statement of Net Position, (2) the Proprietary Fund Statement of Revenues, Expenses and Changes in Net Position, (3) the Proprietary Fund Statement of Cash Flows, (4) the Fiduciary Funds Statement of Fiduciary Net Position, (5) the Fiduciary Funds Statement 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.

**Fiduciary funds.** Fiduciary funds are used to account for resources held for the benefit of parties outside the government. Fiduciary funds are not reflected in the government-wide financial statements because the resources of those funds are not available to support the Department's own programs. The accounting used for fiduciary funds is much like that used for proprietary funds.

**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 Statement of Net Position is designed to indicate our financial position at a specific point in time. At December 31, 2018, it shows our net worth of \$112,389,809 which comprises \$78,483,312 invested in capital assets, \$6,326,373 and \$5,878,179 restricted for depreciation fund and the pension trust, and \$21,701,945 unrestricted.

The Proprietary Fund Statement 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 6-month period ended December 31, 2018 was \$4,891,768.

The Proprietary Fund Statement of Cash Flows provide information about cash receipts, cash payments, investing, and financing activities during the accounting period. A review of our Proprietary Fund Statement of Cash Flows indicates that cash receipts from operating activities adequately covered our operating expenses in the 6-month period ended December 31, 2018.

The following is a summary of the Department's financial data for the 6-month period ended December 31, 2018 (in thousands).

**Summary of Net Position**

Current assets	\$ 33,122
Noncurrent assets	<u>110,208</u>
Total assets	143,330
Deferred outflows of resources	5,780
Current liabilities	13,989
Noncurrent liabilities	<u>20,626</u>
Total liabilities	34,615
Deferred inflows of resources	2,106
Net position:	
Net investment in capital assets	78,483
Restricted for depreciation fund	6,326
Restricted for pension trust	5,878
Unrestricted	<u>21,702</u>
Total net position	<u><u>\$ 112,389</u></u>



### Summary of Change in Net Position

Operating revenues	\$ 50,463
Operating expenses	<u>(45,027)</u>
Operating income	5,436
Non-operating revenues (expenses)	<u>(545)</u>
Change in net position	4,891
Beginning net position	<u>107,498</u>
Ending net position	<u><u>\$ 112,389</u></u>

For the 6-month period ended December 31, 2018 electric sales (net of discounts) were \$50,205,195.

Operating expenses totaled \$45,027,254 for the 6-month period ending December 31, 2018. The largest portion of this total, \$34,727,304, was for purchase power costs. Other operating expenses included \$7,300,268 for general operating and maintenance costs, \$767,705 for voluntary payments to Towns, and depreciation expense of \$2,231,977. For the 6-month period ended December 31, 2018, the depreciation rate was 3.0% (pro-rated to 1.5%).

In the 6-month period ended December 31, 2018, the Department contributed \$1,821,987 to the Reading Municipal Light Department Employees' Retirement Trust ("Pension Trust") and the Pension Trust contributed \$1,691,058 to the Town of Reading Contributory Retirement System on behalf of the Department's employees.

For the 6-month period ending December 31, 2018, the Department did not make any contributions to the Other Post-Employment Benefits Trust ("OPEB Trust"). Additional information on the Department's OPEB Trust Fund can be found in Note 19 this report.

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

**Capital assets.** Total investment in land at year end amounted to \$1,265,842; a decrease of \$20,833 from the prior period. Total investment in depreciable capital assets at year-end amounted to \$77,217,470 (net of accumulated depreciation), an increase of \$228,939 from the prior period. This investment in depreciable capital assets includes structures and improvements, equipment and furnishings, and infrastructure assets.

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

Additional information on capital assets and other long-term obligations 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:

Director of Business, Finance, and Technology  
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  
STATEMENT OF NET POSITION

DECEMBER 31, 2018

**ASSETS**

Current:

Unrestricted cash and short-term investments	\$ 20,832,516
Receivables, net of allowance for uncollectable	8,705,414
Prepaid expenses	2,097,356
Inventory	<u>1,486,470</u>

Total current assets 33,121,756

Noncurrent:

Restricted cash and short-term investments	28,827,501
Restricted investments	2,490,210
Investment in associated companies	289,474
Land	1,265,842
Capital assets, net of accumulated depreciation	77,217,470
Other	<u>118,044</u>

Total noncurrent assets 110,208,541

**DEFERRED OUTFLOWS OF RESOURCES**

Related to pensions	5,039,390
Related to OPEB	<u>740,468</u>

**TOTAL ASSETS AND DEFERRED OUTFLOWS OF RESOURCES** 149,110,155

**LIABILITIES**

Current:

Accounts payable	9,718,305
Accrued liabilities	280,307
Customer deposits	1,197,752
Customer advances for construction	2,262,718
Current portion of long-term liabilities:	
Compensated absences	<u>530,245</u>

Total current liabilities 13,989,327

Noncurrent:

Net pension liability	10,781,819
Net OPEB liability	7,374,246
Compensated absences	<u>2,469,394</u>

Total noncurrent liabilities 20,625,459

**DEFERRED INFLOWS OF RESOURCES**

Related to pensions	<u>2,105,560</u>
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**TOTAL LIABILITIES AND DEFERRED INFLOWS OF RESOURCES** 36,720,346

**NET POSITION**

Net investment in capital assets	78,483,312
Restricted for:	
Depreciation fund	6,326,373
Pension trust	5,878,179
Unrestricted	<u>21,701,945</u>

**TOTAL NET POSITION** \$ 112,389,809

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

TOWN OF READING, MASSACHUSETTS  
MUNICIPAL LIGHT DEPARTMENT

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

FOR THE 6-MONTH PERIOD ENDED DECEMBER 31, 2018

**Operating Revenues:**

Electric sales, net of discounts of \$2,143,250	\$ 50,205,195
Purchase power adjustments:	
Fuel charge adjustment	(846,958)
Capacity and transmission adjustment	<u>1,105,205</u>
Total Operating Revenues	50,463,442

**Operating Expenses:**

Purchase power	34,727,304
Operating	6,492,375
Maintenance	807,893
Voluntary payments to towns	767,705
Depreciation	<u>2,231,977</u>
Total Operating Expenses	<u>45,027,254</u>
Operating Income	5,436,188

**Nonoperating Revenues (Expenses):**

Interest income	274,217
Contributions in aid of construction	99,509
Return on investment to Town of Reading	(1,240,253)
Loss on disposal of capital assets	(58,061)
Other	<u>380,168</u>

Total Nonoperating Revenues (Expenses), Net	<u>(544,420)</u>
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Change in Net Position	4,891,768
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Net Position at Beginning of Period	<u>107,498,041</u>
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Net Position at End of Period	<u><u>\$ 112,389,809</u></u>
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The accompanying notes are an integral part of these financial statements.

TOWN OF READING, MASSACHUSETTS  
MUNICIPAL LIGHT DEPARTMENT

BUSINESS-TYPE PROPRIETARY FUND  
STATEMENT OF CASH FLOWS

FOR THE 6-MONTH PERIOD ENDED DECEMBER 31, 2018

**Cash Flows From Operating Activities:**

Receipts from customers and users	\$ 51,827,386
Payments to vendors and employees	(41,852,122)
Customer purchase power adjustments	<u>258,248</u>
Net Cash Provided By (Used For) Operating Activities	10,233,512

**Cash Flows From Noncapital Financing Activities:**

Return on investment to Town of Reading	(1,240,253)
Other	<u>380,168</u>
Net Cash Provided By (Used For) Noncapital Financing Activities	(860,085)

**Cash Flows From Capital and Related Financing Activities:**

Acquisition and construction of capital assets	(2,498,143)
Contributions in aid of construction	<u>212,763</u>
Net Cash Provided By (Used For) Capital and Related Financing Activities	(2,285,380)

**Cash Flows From Investing Activities:**

Investment income	274,217
(Increase) decrease in investments	<u>(18,527)</u>
Net Cash Provided By (Used For) Investing Activities	255,690
Net Change in Cash and Short-Term Investments	7,343,737
Cash and Short-Term Investments, Beginning of Period	<u>42,316,280</u>
Cash and Short-Term Investments, End of Period	<u><u>\$ 49,660,017</u></u>

**Reconciliation of Operating Income (Loss) to Net Cash:**

Operating income	\$ 5,436,188
Adjustments to reconcile operating income to net cash provided by (used for) operating activities:	
Depreciation expense	2,231,977
Changes in assets, liabilities, and deferred outflows/inflows	
Accounts receivable	1,580,311
Prepaid and other assets	(1,487,682)
Inventory	(54,405)
Deferred outflows - related to pensions	(1,691,058)
Deferred outflows - related to OPEB	(91,853)
Accounts payable and accrued liabilities	4,052,260
Net OPEB liability	215,893
Other	<u>41,881</u>
Net Cash Provided By (Used For) Operating Activities	<u><u>\$ 10,233,512</u></u>

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

TOWN OF READING, MASSACHUSETTS  
MUNICIPAL LIGHT DEPARTMENT

FIDUCIARY FUNDS  
STATEMENT OF FIDUCIARY NET POSITION

DECEMBER 31, 2018

	<u>Other Post Employment Benefits Trust Fund</u>
<b>ASSETS</b>	
Cash and short-term investments	\$ 3,561,719
<b>TOTAL ASSETS</b>	<u>3,561,719</u>
<b>NET POSITION</b>	
Total net position held in trust for pensions and other purposes	<u>\$ 3,561,719</u>

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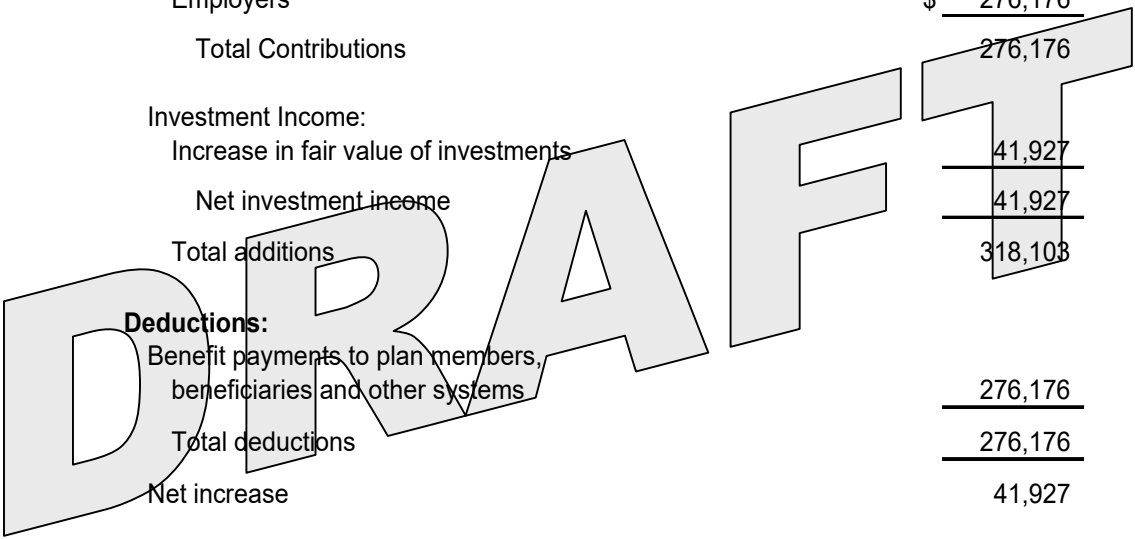
The accompanying notes are an integral part of these financial statements.

TOWN OF READING, MASSACHUSETTS  
MUNICIPAL LIGHT DEPARTMENT

FIDUCIARY FUNDS  
STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

FOR THE 6-MONTH PERIOD ENDED DECEMBER 31, 2018

	<u>Other Post Employment Benefits Trust Fund</u>
<b>Additions:</b>	
Contributions:	
Employers	\$ <u>276,176</u>
Total Contributions	<u>276,176</u>
Investment Income:	
Increase in fair value of investments	<u>41,927</u>
Net investment income	<u>41,927</u>
Total additions	<u>318,103</u>
<b>Deductions:</b>	
Benefit payments to plan members, beneficiaries and other systems	<u>276,176</u>
Total deductions	<u>276,176</u>
Net increase	41,927
<b>Net position restricted for pensions and other purposes:</b>	
Beginning of Period	<u>3,519,792</u>
End of Period	<u><u>\$ 3,561,719</u></u>



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 68,000 residents within the towns of Reading, North Reading, Wilmington, and Lynnfield Center.
- 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 December 31, 2018 are classified in the accompanying financial statements as follows:

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Proprietary Fund:	
Unrestricted cash and short-term investments	\$ 20,832,516
Restricted cash and short-term investments	28,827,501
Restricted investments	2,490,210
Fiduciary Funds:	
Cash and short-term investments - OPEB Trust	<u>3,561,719</u>
Total cash and investments	<u><u>\$ 55,711,946</u></u>

Total cash and investments at December 31, 2018 consist of the following:

Deposits with financial institutions	\$ <u>55,711,946</u>
Total cash and investments	<u><u>\$ 55,711,946</u></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 December 31, 2018, 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 December 31, 2018, the Department and Pension Trust held investments in domestic and foreign fixed income bonds with varying maturity dates as follows:

<u>Corporate Bonds</u>		<u>Maturity Date</u>
AT&T Inc	\$ 424,580	12/01/22
General Electric Cap Corp	386,282	01/09/23
Wells Fargo & Co	402,336	08/15/23
Simon Property	372,926	06/15/27
Rabobank Nederland Bank	498,340	11/09/22
BNP Paribas	405,746	03/03/23
Total	\$ 2,490,210	

### 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 December 31, 2018, the Department and Pension Trust held investments in domestic and foreign fixed income bonds with varying ratings as follows:

<u>Investment Type</u>	<u>Proprietary Fund</u> <u>Restricted Investments</u>	<u>Moody's Rating</u>
Corporate bonds:		
AT&T Inc	\$ 424,580	BAA2
General Electric Cap Corp	386,282	BAA1
Wells Fargo & Co	402,336	A3
Simon Property	372,926	A2
Rabobank Nederland Bank	498,340	BAA1
BNP Paribas	405,746	AA3
Total	\$ 2,490,210	

## 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 December 31, 2018, 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 December 31, 2018, cannot be reasonable determined.

As of December 31, 2018, 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	Value	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	\$ 2,490,210	\$ 2,490,210	\$ -	\$ -
Total	\$ 2,490,210			

### 3. Restricted Cash and Investments

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

	Cash	Investments
Depreciation fund	\$ 6,326,373	\$ -
Construction fund	1,288,181	-
Deferred fuel reserve	5,185,048	-
Deferred energy conservation reserve	417,735	-
Rate stabilization	7,074,804	-
Reserve for uncollectible accounts	200,000	-
Sick leave benefits	1,754,534	1,245,105
Hazardous waste fund	750,000	-
Customer deposits	1,197,752	-
Pension trust	4,633,074	1,245,105
Total	\$ 28,827,501	\$ 2,490,210

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 account represents amounts set aside by the Municipal Light Board for construction-related projects.
- 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. Accounts Receivable

**4. Accounts Receivable**

Accounts receivable consists of the following at December 31, 2018:

Customer Accounts:			
Billed		\$ 4,070,383	
Less allowances:			
Uncollectible accounts		(200,000)	
Sales discounts		(253,694)	
Total billed			3,616,689
Unbilled, net			<u>4,930,225</u>
Total customer accounts			8,546,914
Other Accounts:			
Liens and other		<u>158,500</u>	
Total other accounts			<u>158,500</u>
Total net receivables			<u>\$ 8,705,414</u>

**5. Prepaid Expenses**

Prepaid expenses consist of the following:

Insurance and other	\$ 1,483,500
Purchase power	(20,943)
NYPA prepayment fund	307,573
WC Fuel - Watson	<u>327,226</u>
Total	<u>\$ 2,097,356</u>

## 6. Inventory

Inventory comprises supplies and materials at December 31, 2018, 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 December 31, 2018:

New England Hydro-Transmission (NEH & NHH) \$ 289,474

## 8. Capital Assets

The following is a summary of fiscal year 2018 activity in capital assets (in thousands):

	Beginning Balance	Increases	Decreases	Ending Balance
<b>Business-Type Activities:</b>				
Capital assets, being depreciated:				
Structures and improvements	\$ 20,270	\$ 32	\$ -	\$ 20,302
Equipment and furnishings	34,734	173	-	34,907
Infrastructure	93,794	2,303	(440)	95,657
Total capital assets, being depreciated	148,798	2,508	(440)	150,866
Less accumulated depreciation for:				
Structures and improvements	(9,954)	(279)	-	(10,233)
Equipment and furnishings	(22,307)	(493)	-	(22,800)
Infrastructure	(39,549)	(1,460)	393	(40,616)
Total accumulated depreciation	(71,810)	(2,232)	393	(73,649)
Total capital assets, being depreciated, net	76,988	276	(47)	77,217
Capital assets, not being depreciated:				
Land	1,287	-	(21)	1,266
Total capital assets, not being depreciated	1,287	-	(21)	1,266
Capital assets, net	\$ 78,275	\$ 276	\$ (68)	\$ 78,483



**9. Deferred Outflows of Resources**

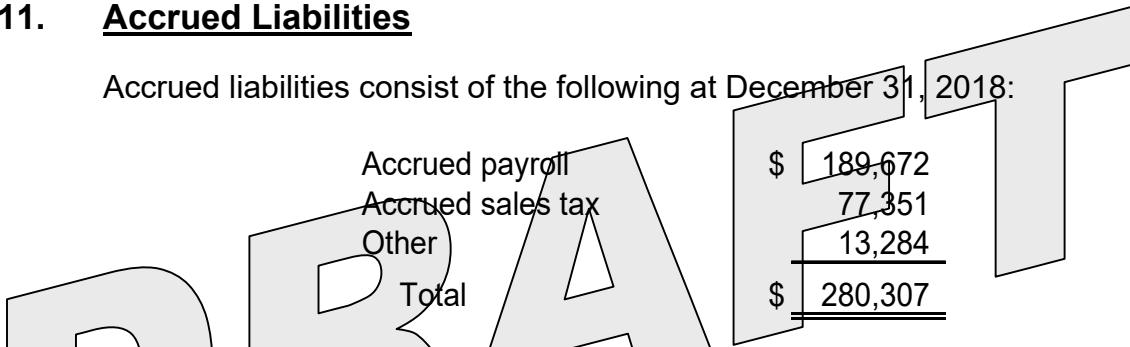
Deferred outflows of resources represent the consumption of net position by the Department that is applicable to future reporting periods. Deferred outflows of resources have a positive effect on net position, similar to assets. Deferred outflows of resources related to pensions and OPEB, in accordance with GASB Statements No. 68 and 75, are more fully discussed in the corresponding pension and OPEB notes.

**10. Accounts Payable**

Accounts payable represent fiscal 2018 expenses that were paid after December 31, 2018.

**11. Accrued Liabilities**

Accrued liabilities consist of the following at December 31, 2018:



Accrued payroll	\$ 189,672
Accrued sales tax	77,351
Other	13,284
Total	<u>\$ 280,307</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. Long-Term Debt**

**Changes in General Long-Term Obligations**

During the 6-month period ended December 31, 2018, the following changes occurred in long-term obligations (in thousands):

	Total Balance <u>6/30/18</u>	<u>Additions</u>	<u>Reductions</u>	Total Balance <u>12/31/18</u>	Less Current Portion	Equals Long-Term Portion <u>12/31/18</u>
Net pension liability	\$ 10,782	\$ -	\$ -	\$ 10,782	\$ -	\$ 10,782
Net OPEB liability	7,158	216	-	7,374	-	7,374
Other:						
Compensated absences	<u>3,194</u>	<u>-</u>	<u>(195)</u>	<u>2,999</u>	<u>(530)</u>	<u>2,469</u>
Subtotal - other	<u>3,194</u>	<u>-</u>	<u>(195)</u>	<u>2,999</u>	<u>(530)</u>	<u>2,469</u>
Totals	<u>\$ 21,134</u>	<u>\$ 216</u>	<u>\$ (195)</u>	<u>\$ 21,155</u>	<u>\$ (530)</u>	<u>\$ 20,625</u>

**16. 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. Deferred inflows of resources related to pension will be recognized as expense in future years and is more fully described in the corresponding pension note.

**17. 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 3-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 100 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 period ended December 31, 2018 was \$1,691,058 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 December 31, 2018, the Department reported a liability of \$10,781,819 for its proportionate share of the System’s net pension liability. The net pension

liability was measured as of December 31, 2017, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of January 1, 2017 rolled forward to December 31, 2017. 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, 2017, the Department's proportion was 29.15%.

For the period ended December 31, 2018, the Department recognized pension expense of \$1,533,131. In addition, the Department reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$ 1,465,091	\$ 518,485
Changes of assumptions	1,721,957	-
Net difference between projected and actual investment earnings on pension plan	-	1,587,075
Changes in proportion and differences between employer contributions and proportionate share of contributions	161,284	-
Contributions subsequent to the measurement date	<u>1,691,058</u>	<u>-</u>
Total	<u>\$ 5,039,390</u>	<u>\$ 2,105,560</u>

The \$1,691,058 reported as deferred outflows of resources related to pensions resulting from contributions subsequent to the measurement date and before the end of the fiscal year will be included as a reduction of the net pension liability in the year ended December 31, 2019.

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 December 31:

2019	\$ 690,475
2020	678,142
2021	9,861
2022	(337,787)
2023	<u>202,081</u>
Total	<u>\$ 1,242,772</u>

D. Actuarial Assumptions

The total pension liability was determined by an actuarial valuation as of January 1, 2017, rolled forward to the measurement date of December 31, 2018 using the following actuarial assumptions, applied to all periods included in the measurement:

Valuation Date	January 1, 2017 rolled forward to December 31, 2017
Actuarial Cost Method	Entry Age Normal Cost Method
Actuarial Assumptions:	
Investment rate of return	7.65%, net of pension plan investment expense, including inflation
Projected salary increases	4.25%-6.00% for Group 1
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 fully 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, 2017 are summarized in the following table:

<u>Asset Class</u>	<u>Target Asset Allocation</u>	<u>Long-term Expected Rates of Return</u>
Global Equity	40.00%	4.91%
Hedge Funds & Portfolio Completion	13.00%	3.40%
Fixed Income	12.00%	0.71%
Private Equity	11.00%	6.50%
Value-Added Fixed Income	10.00%	3.64%
Real Estate	10.00%	3.70%
Timber/Natural Resources	4.00%	3.25%
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%)
\$ 16,642,839	\$ 10,781,819	\$ 5,811,342

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, 2017 rolled forward to December 31, 2017. However, the actuarial valuation does not take into account the fiduciary net position of the Department's Pension Trust at December 31, 2017 (the measurement date). As of December 31, 2017, the value of the pension trust was \$5,695,996.

## 18. Other Post-Employment Benefits (GASB 75)

*GASB Statement No. 75, Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*, replaces the requirements of *Statement No. 45, Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*. The Statement establishes standards for recognizing and measuring liabilities, deferred outflows of resources, deferred inflows of resources, and expense/expenditures. This Statement identifies the methods and assumptions that are required to be used to project benefit payments, discounted projected benefit payments to their actuarial present value, and attribute that present value to periods of employee service.

All the following OPEB disclosures are based on a measurement date of December 31, 2017.

### A. General Information about the OPEB Plan

#### Plan Description

The Department provides post-employment healthcare benefits for retired employees through the Department's plan. The Department provides health insurance coverage through Blue Cross Blue Shield. The benefits, benefit levels, employee contributions, and employer contributions are governed by Chapter 32 of the Massachusetts General Laws.

#### Benefits Provided

The Department provides medical and prescription drug insurance to retirees and their covered dependents. All active employees who retire from the Department and meet the eligibility criteria will receive these benefits.



Plan Membership

At December 31, 2017, the following employees were covered by the benefit terms:

Inactive employees or beneficiaries currently receiving benefit payments	91
Active employees	<u>87</u>
Total	<u><u>178</u></u>

B. Actuarial Assumptions and Other Inputs

The net 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	6.0% decreasing to 4.25% based on service for Group 1
Investment rate of return	7.50%
Discount rate	7.50%
Healthcare cost trend rates	Medical/Prescription Drug: 7.0% decreasing by 0.5% for 5 years to an ultimate level of 4.5% per year. Contributions: Retiree contributions are expected to increase with medical trend.

Mortality rates were based on:

- Pre-Retirement: RP-2014 Healthy Employee Table projected generationally with Scale MP-2014
- Healthy: RP-2014 Healthy Annuitant Mortality Table projected generationally with Scale MP-2014
- Disabled: RP-2014 Disabled Retiree Table projected generationally with Scale MP-2014

The actuarial assumptions used in the valuation were based on the results of an actuarial experience study as of June 30, 2017.

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>	

**C. Discount Rate**

The discount rate used to measure the net OPEB liability was 7.50%. The projection of cash flows used to determine the discount rate assumed that contributions from plan members will be made at the current contribution rate.

Based on those assumptions, the OPEB plan fiduciary net position was projected to be available to make all projected future benefit payments of current plan members.

**D. Net OPEB Liability**

The components of the net OPEB liability, measured as of December 31, 2017, were as follows:

Total OPEB liability	\$ 10,253,318
Plan fiduciary net position	<u>2,879,072</u>
Net OPEB liability	<u>\$ 7,374,246</u>

**E. Changes in the Net OPEB Liability**

	<u>Increase (Decrease)</u>		
	<u>Total OPEB Liability</u>	<u>Plan Fiduciary Net Position</u>	<u>Net OPEB Liability</u>
	<u>(a)</u>	<u>(b)</u>	<u>(a) - (b)</u>
Balances at 12/31/16	\$ 9,794,075	\$ 2,535,281	\$ 7,258,794
Changes for the year:			
Service cost	230,880	-	230,880
Interest	733,280	-	733,280
Contributions - employer	-	813,663	(813,663)
Net investment income	-	35,045	(35,045)
Benefit payments	<u>(504,917)</u>	<u>(504,917)</u>	<u>-</u>
Net Changes	<u>459,243</u>	<u>343,791</u>	<u>115,452</u>
Balances at 12/31/17	<u>\$ 10,253,318</u>	<u>\$ 2,879,072</u>	<u>\$ 7,374,246</u>

F. 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 one percentage-point lower or one percentage-point higher than the current discount rate:

<u>1%</u> <u>Decrease</u>	<u>Current</u> <u>Discount</u> <u>Rate</u>	<u>1%</u> <u>Increase</u>
\$ 8,556,383	\$ 7,374,246	\$ 6,382,969

G. 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 one percentage-point lower or one percentage-point higher than the current healthcare cost trend rates:

<u>1%</u> <u>Decrease</u>	<u>Current</u> <u>Healthcare</u> <u>Cost Trend</u> <u>Rates</u>	<u>1%</u> <u>Increase</u>
\$ 6,267,849	\$ 7,374,246	\$ 8,556,810

H. OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB

For the period ended December 31, 2018, the Department recognized an OPEB expense of \$795,772. At December 31, 2018, the Department reported deferred outflows of resources related to OPEB from the following sources:

	<u>Deferred</u> <u>Outflows of</u> <u>Resources</u>
Contributions subsequent to the measurement date	\$ 607,125
Net difference between projected and actual OPEB investment earnings	<u>133,343</u>
Total	<u>\$ 740,468</u>

The \$607,125 reported as deferred outflows of resources related to OPEB resulting from contributions subsequent to the measurement date and before the end of the fiscal year will be included as a reduction of the net OPEB liability in the year ended December 31, 2019.

Other amounts reported as deferred outflows of resources related to OPEB will be recognized in OPEB expense as follows:

<u>Year Ended December 31:</u>	
2019	\$ 33,336
2020	33,336
2021	33,336
2022	<u>33,335</u>
Total	\$ <u>133,343</u>

**19. Other Post-Employment Benefits (GASB 74)**

*GASB Statement No. 74, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans (OPEB)*, replaces the requirements of *Statement No. 43, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*. This applies if a trust fund has been established to fund future OPEB costs. In fiscal year 2010, the Department established an OPEB Trust Fund to provide funding for future employee health care costs.

All the following OPEB disclosures are based on a measurement date of December 31, 2018.

**A. Investments**

The OPEB trust fund assets consist of equities, fixed income, real estate, and alternatives. (specify)

*Rate of return.* For the year ended December 31, 2018, the annual money-weighted rate of return on investments, net of investment expense, was not available. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

**B. Actuarial Assumptions and Other Inputs**

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	6.0% decreasing to 4.25% based on service for Group 1 and Group 2
Investment rate of return	7.50%, net of OPEB plan investment expense
Discount rate	7.50%
Healthcare cost trend rates	Medical/Prescription Drug: 7.0% decreasing by 0.5% for 5 years to an ultimate level of 4.5% per year. Contributions: Retiree contributions are expected to increase with medical trend.

Mortality rates were based on:

- Pre-Retirement: RP-2014 Healthy Employee Table projected generationally with Scale MP-2014
- Healthy: RP-2014 Healthy Annuitant Mortality Table projected generationally with Scale MP-2014
- Disabled: RP-2014 Disabled Retiree Table projected generationally with Scale MP-2014

The actuarial assumptions used in the valuation were based on the results of an actuarial experience study as of June 30, 2017.

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 December 31, 2018 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	17.50%	6.15%
International developed markets equity	15.50%	7.11%
International emerging markets equity	6.00%	9.41%
Core fixed income	12.00%	1.68%
High yield fixed income	10.00%	4.13%
Real estate	10.00%	4.90%
Commodities	4.00%	4.71%
Hedge fund, GTAA, risk parity	13.00%	3.94%
Private equity	12.00%	10.28%
Total	<u>100.00%</u>	

**C. 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 members will be made at the current contribution rate.

Based on those assumptions, the OPEB plan fiduciary net position was projected to be available to make all projected future benefit payments of current

plan members. As a result, the discount rate and the investment rate of return are the same.

*D. Net OPEB Liability*

The components of the net OPEB liability, measured as of December 31, 2018, were as follows:

Total OPEB liability	\$ 10,705,889
Plan fiduciary net position	<u>3,561,719</u>
Net OPEB liability	<u>\$ 7,144,170</u>

Plan fiduciary net position as a percentage of the total OPEB liability 33.27%

*E. 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 one percentage-point lower or one percentage-point higher than the current discount rate:

1% Decrease	Current Discount Rate	1% Increase
<u>\$ 8,360,411</u>	<u>\$ 7,144,170</u>	<u>\$ 6,123,898</u>

*F. 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 one percentage-point lower or one percentage-point higher than the current healthcare cost trend rates:

1% Decrease	Current Healthcare Cost Trend Rates	1% Increase
<u>\$ 5,920,483</u>	<u>\$ 7,144,170</u>	<u>\$ 8,454,644</u>

**20. 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.

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.

As of December 31, 2018, total capital expenditures amount to \$1,652,338,000, of which \$118,564,000 represents the amount associated with the Department's Project Capability. MMWEC's debt outstanding for the Projects from Power Supply System Revenue Bonds totals \$7,110,000, of which none is associated with the Department's share of Project Capability. As of December 31, 2018, MMWEC's total future debt service requirement on outstanding bonds issued for the Projects is \$7,419,000, none of which is anticipated to be billed to the Department in the future.

The Department has no required payments under the PSAs and PPAs.

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 \$7,897,000 and \$7,760,000 for the years ended December 31, 2018 and 2017, respectively.



## 21. 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 6-month period ending December 31, 2018 REC activity and balances is as follows.

### REC Holdings at December 31, 2018

	<u>Banked Certificates</u>	<u>Projected Certificates</u>	<u>Total Certificates</u>	<u>Estimated Value</u>
CT Class I	7,596	12,010	19,606	\$ 45,576
MA Class I & II	4,363	8,626	12,989	82,840
MA/RI/NH 1	5,448	9,804	15,252	32,688
MA/CT/RI/NH 1	<u>7,983</u>	<u>17,714</u>	<u>25,697</u>	<u>47,898</u>
Total	<u>25,390</u>	<u>48,154</u>	<u>73,544</u>	<u>\$ 209,002</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 December 31, 2018 are not recognized as an asset on the proprietary fund Statements of Net Position.

**22. 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, 2019. Following is the future minimum rental income to be received by the Department under the terms of this lease for the year ending December 31:

2019	\$ <u>8,984</u>
Total	\$ <u><u>8,984</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, 2018. 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, 2020. Following is the future minimum rental expense to be paid by the Department for the year ending December 31:

2019	\$ 161,348
2020	<u>40,337</u>
Total	\$ <u><u>201,685</u></u>

**23. Commitments and Contingencies**

Outstanding Legal Issues - On an ongoing basis, there are typically pending legal issues in which the Department is involved. The Department's management is of the opinion that the potential future settlement of these issues would not materially affect its financial statements taken as a whole.

**24. Change of Year-end**

The financial year-end of the Department was changed from June 30 to December 31 in the interest of improved overall cost and reporting efficiency as it relates to the Town, the ratepayers, and the Department of Public Utilities and improved financial controls of the utility structure, specifically relating to the ISO New England billing structure. Accordingly, the current financial statements are prepared for 6 months from July 1, 2018 to December 31, 2018.

TOWN OF READING, MASSACHUSETTS, MUNICIPAL LIGHT DEPARTMENT

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

DECEMBER 31, 2018  
(Unaudited)

Reading Contributory Retirement System

Fiscal Year	Measurement Date	Proportion of the Net Pension Liability	Proportionate Share of the Net Pension Liability	Covered Payroll	Proportionate Share of the Net Pension Liability as a Percentage of Covered Payroll	Plan Fiduciary Net Position Percentage of the Total Pension Liability
December 31, 2018	December 31, 2017	29.15%	\$10,781,819	\$ 6,938,057	155.40%	79.32%
June 30, 2018	December 31, 2017	29.15%	\$10,781,819	\$ 6,938,057	155.40%	79.32%
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)**

**DECEMBER 31, 2018**  
**(Unaudited)**

Reading Contributory Retirement System

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<u>Fiscal Year</u>	<u>Contractually Required Contribution</u>	<u>Contributions in Relation to the Contractually Required Contribution</u>	<u>Contribution Deficiency (Excess)</u>	<u>Covered Payroll</u>	<u>Contributions as a Percentage of Covered Payroll</u>
December 31, 2018	\$ 1,691,058	\$ 1,691,058	\$ -	\$ 6,938,057	24.37%
June 30, 2018	\$ 1,650,416	\$ 1,650,416	\$ -	\$ 6,393,765	25.81%
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  
OTHER POST-EMPLOYMENT BENEFITS (OPEB)**

**Schedule of Changes in the Net OPEB Liability (GASB 74 and 75)**

(Unaudited)

	<u>2018</u>	<u>2017</u>
<b>Total OPEB liability</b>		
Service cost	\$ 238,384	\$ 230,880
Interest on unfunded liability - time value of \$	766,539	733,280
Benefit payments, including refunds of member contributions	<u>(552,351)</u>	<u>(504,917)</u>
Net change in total OPEB liability	452,572	459,243
Total OPEB liability - beginning	<u>10,253,318</u>	<u>9,794,075</u>
<b>Total OPEB liability - ending (a)</b>	10,705,890	10,253,318
<b>Plan fiduciary net position*</b>		
Contributions - employer	1,159,476	813,663
Net investment income	75,522	35,045
Benefit payments, including refunds of member contributions	<u>(552,351)</u>	<u>(504,917)</u>
Net change in plan fiduciary net position	682,647	343,791
Plan fiduciary net position - beginning	<u>2,879,072</u>	<u>2,535,281</u>
<b>Plan fiduciary net position - ending (b)</b>	<u>3,561,719</u>	<u>2,879,072</u>
<b>Net OPEB liability (asset) - ending (a-b)*</b>	<u>\$ 7,144,171</u>	<u>\$ 7,374,246</u>

\*Activity will not agree to Statement of Changes in Fiduciary Net Position due to Department switching to a 12/31 year end.

The years 2018 and 2017 shown above represent the calendar years ended 12/31.

*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 and Contributions (GASB 74 and 75)**

(Unaudited)

**Schedule of Net OPEB Liability**

	<u>2018</u>	<u>2017</u>
Total OPEB liability	\$ 10,705,890	\$ 10,253,318
Plan fiduciary net position	<u>3,561,719</u>	<u>2,879,072</u>
Net OPEB liability (asset)	<u>\$ 7,144,171</u>	<u>\$ 7,374,246</u>
Plan fiduciary net position as a percentage of the total OPEB liability	33.27%	28.08%

**Schedule of Contributions**

	<u>2018</u>	<u>2017</u>
Actuarially determined contribution	\$ 991,048	\$ 932,387
Contributions in relation to the actuarially determined contribution	<u>1,159,476</u>	<u>813,663</u>
Contribution deficiency (excess)	<u>\$ (168,428)</u>	<u>\$ 118,724</u>

*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  
MARCH 2019  
ATTACHMENT 2

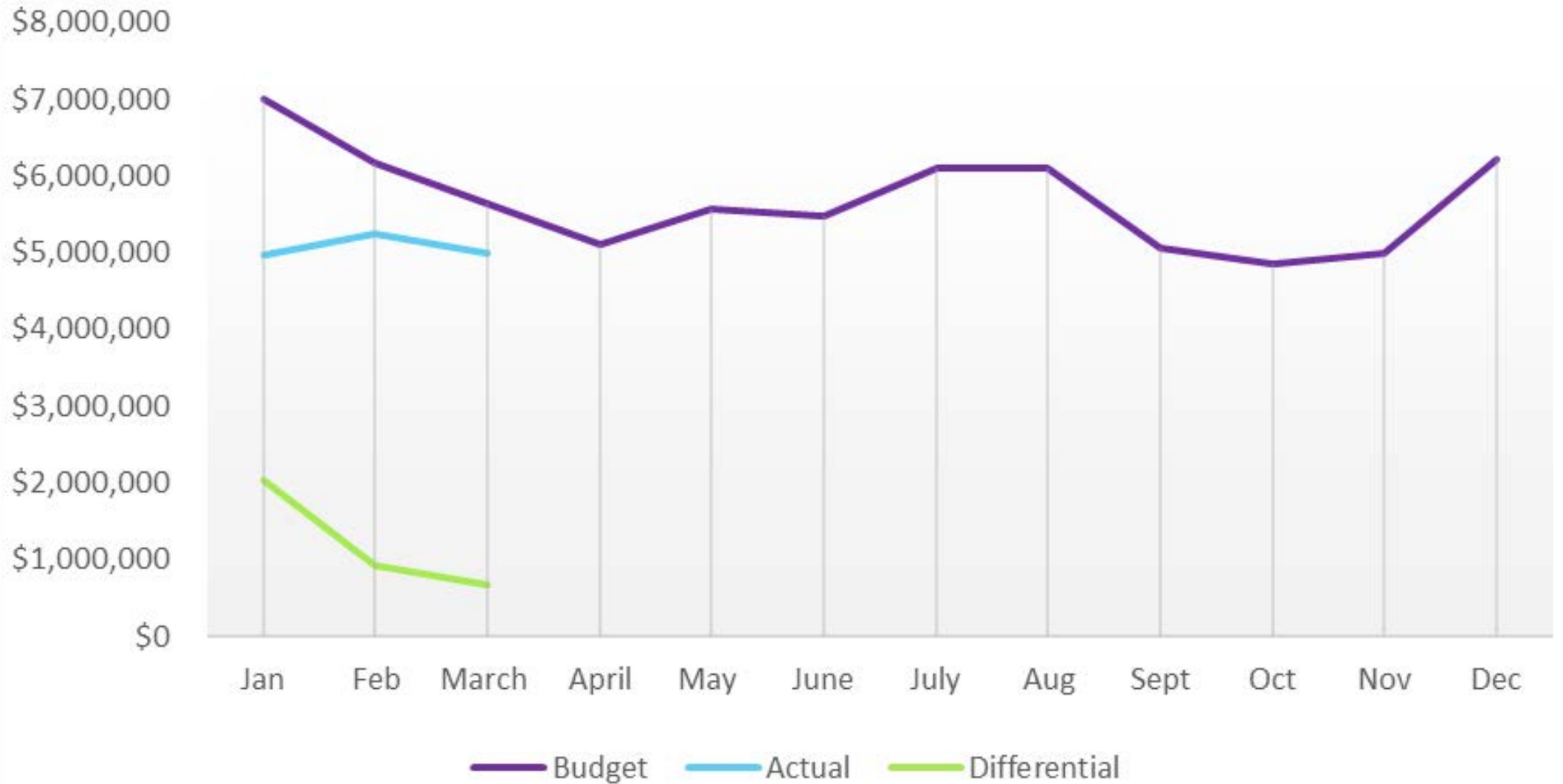


# Board of Commissioners Meeting May 23, 2019

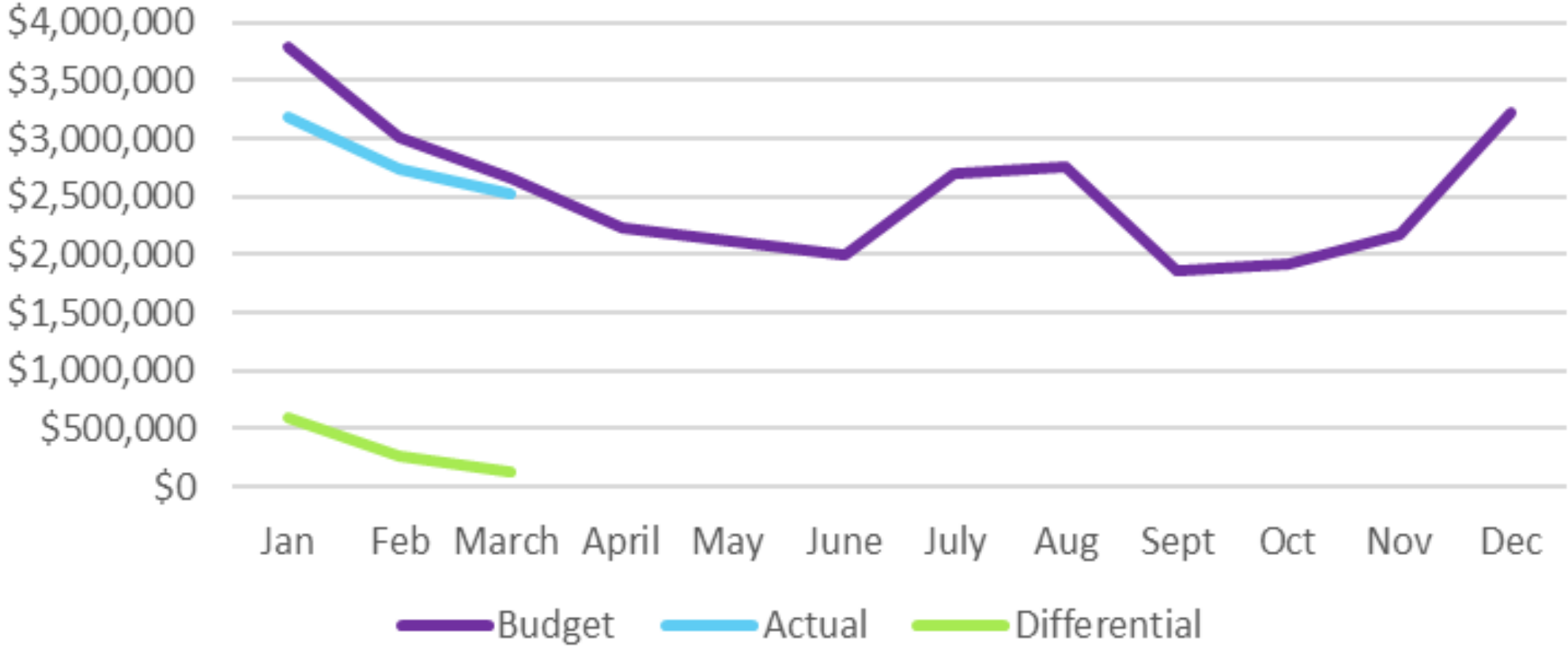
*Charles Underhill, Director of Integrated Resources  
Reporting for March 2019.*



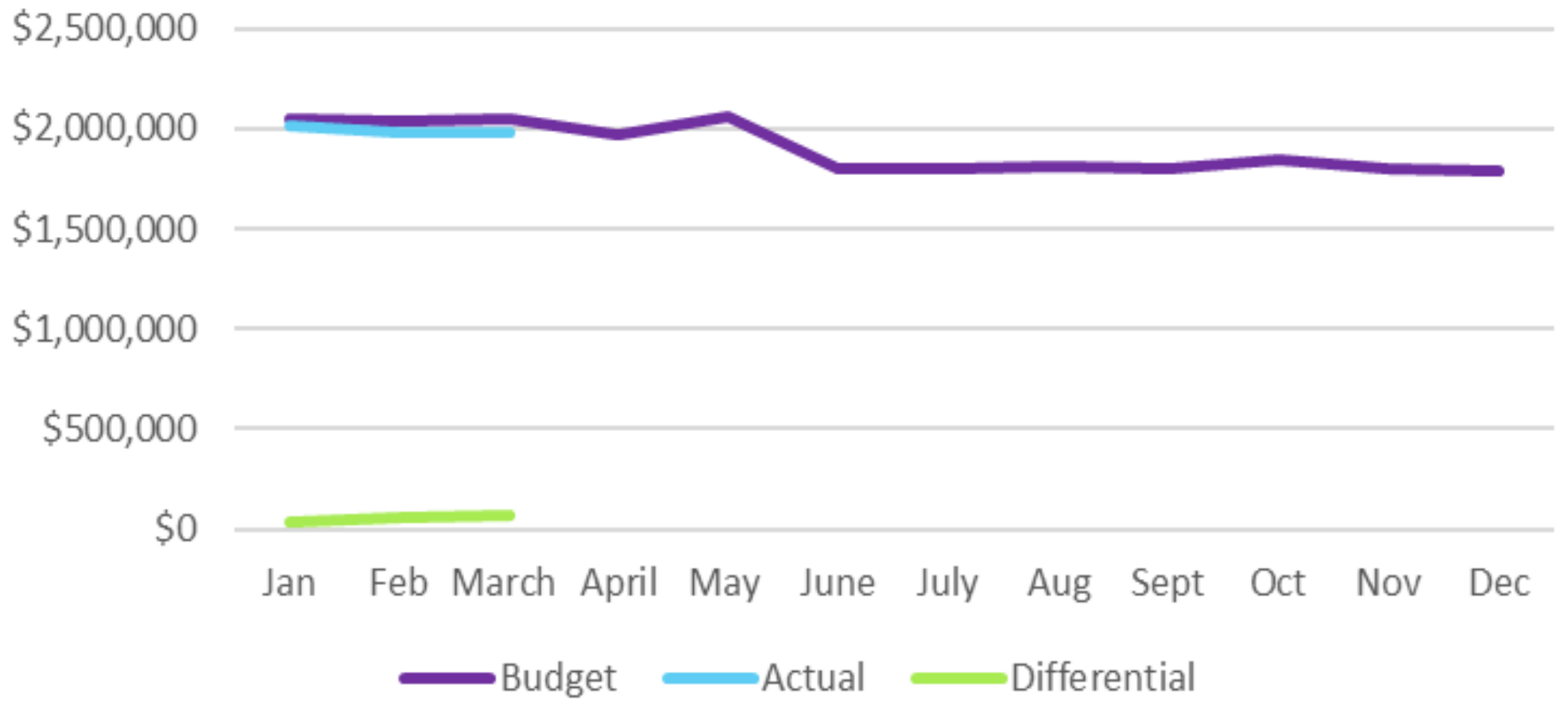
# Total Purchase Power Expenses Budget vs. Actual through March 2019



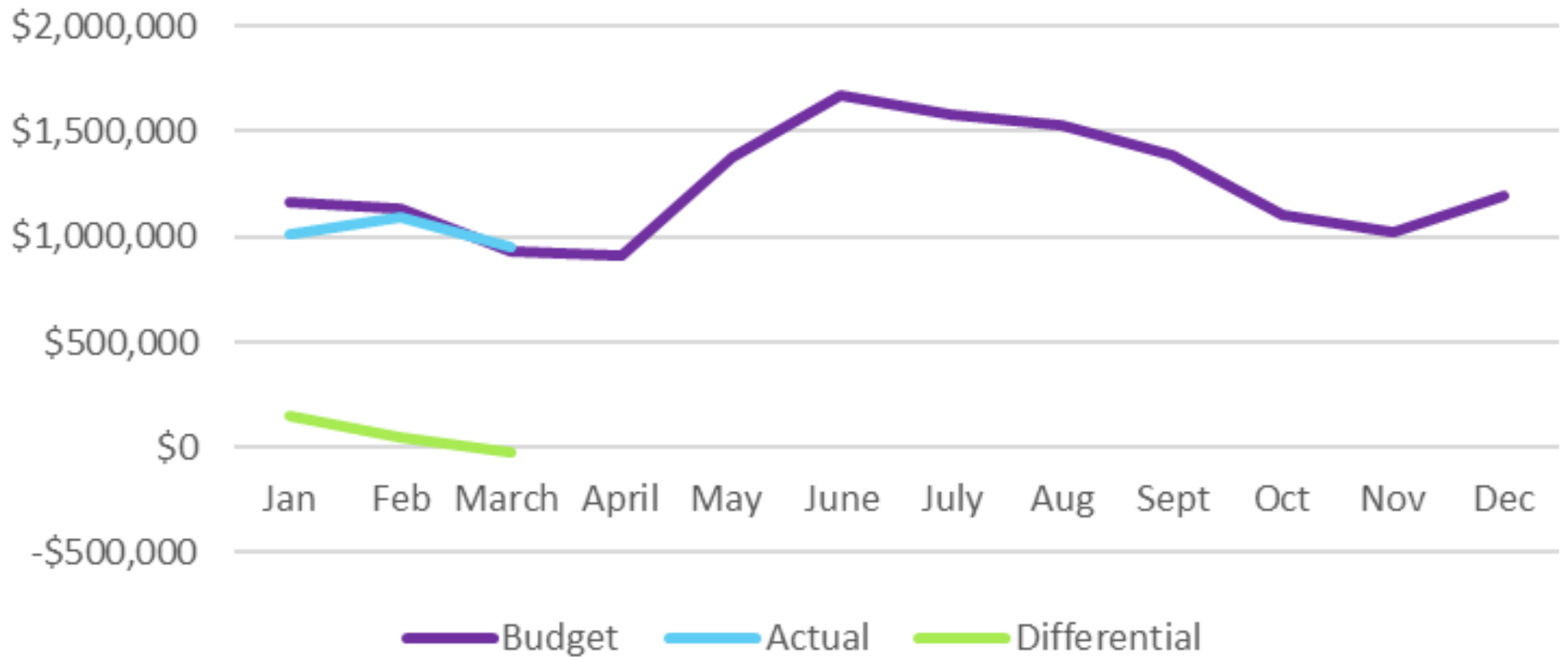
# Energy Costs Budget vs. Actual through March 2019



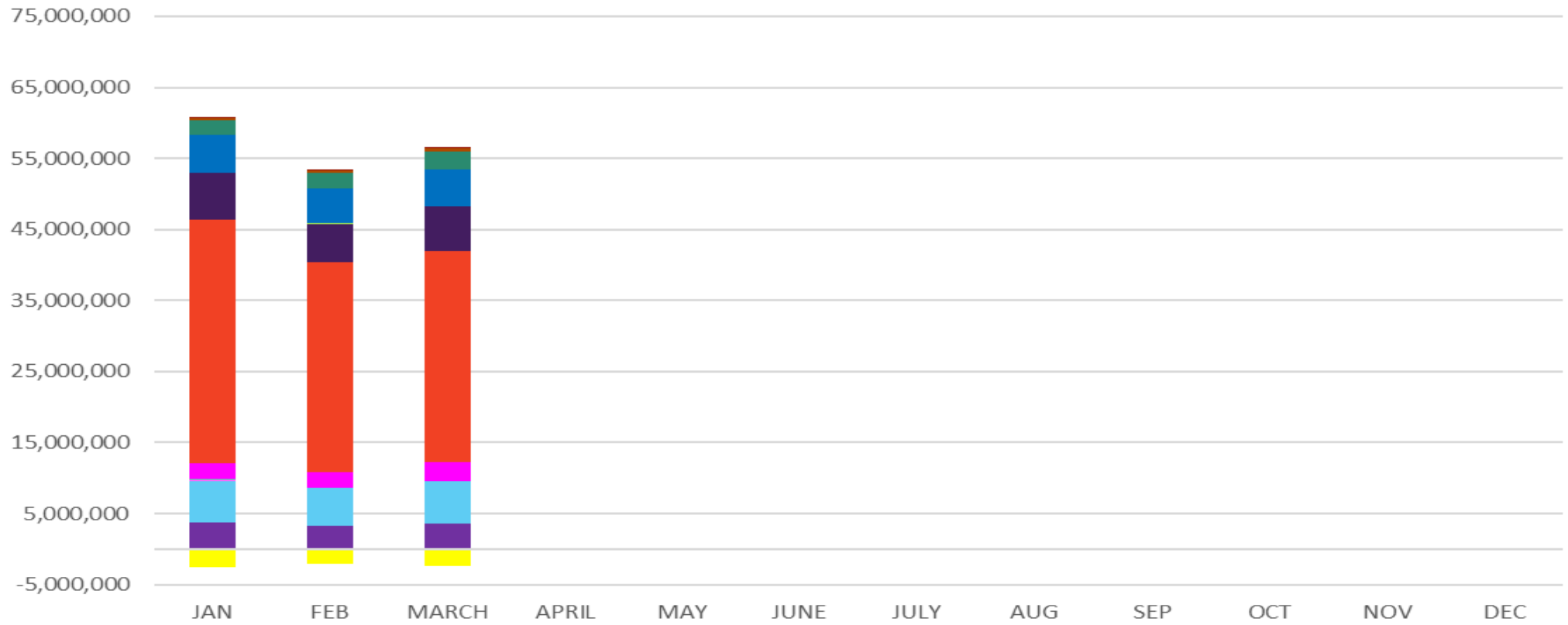
# Capacity Costs Budget vs. Actual through March 2019



## Transmission Costs Budget vs. Actual through March 2019



## Actual kWh Purchases by Resource 2019



- MILLSTONE  
■ NEXTERA  
■ COMMUNITY SOLAR
- SEABROOK  
■ EXELON  
■ COOP RESALES
- STONY BROOK C/C  
■ BELD  
■ ISO-NE Spot Market
- STONY BROOK PEAKING  
■ HYDRO PROJECTS  
■ WIND PROJECTS
- NYPA

# SYSTEM MONITOR

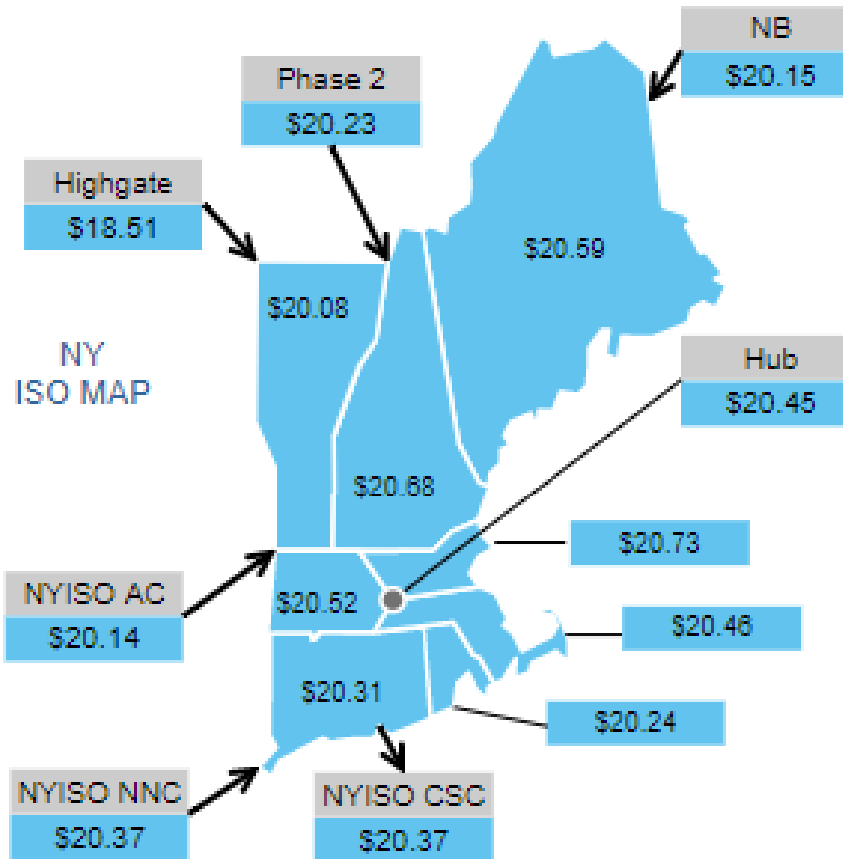
## LMP MAP: REAL-TIME

Day-Ahead

**Real-Time**

NE Energy: \$20.50

System Demand: 11661 MW



Sampling Period: 05/16/2019 09:30 AM

To: Coleen O'Brien

From:  Maureen McHugh, Charles Underhill 

Date: May 17, 2019

Subject: Purchase Power Summary –March 2019

Energy Services Division (ESD) has completed the Purchase Power Summary for the month of March 2019.

### ENERGY

The RMLD's total metered load for the month of March was 53,515,994, which is a 1.08% increase from the March 2018 figures. The system distribution losses are 4%.

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

<b>Table 1</b>					
Resource	Amount of Energy (kWh)	Cost of Energy (\$/Mwh)	% of Total Energy	Total \$ Costs	\$ as a %
Millstone #3	3,671,481	\$12.76	6.80%	\$46,836	1.85%
Seabrook	5,887,752	\$5.27	10.91%	\$31,042	1.23%
Stonybrook Intermediate	10,984	\$193.70	0.02%	\$2,128	0.08%
NYPA	2,691,991	\$4.92	4.99%	\$13,245	0.52%
Nextera	29,730,586	\$56.03	55.07%	\$1,665,880	65.88%
ISO Interchange	(2,445,405)	\$12.03	-4.53%	-\$29,414	-1.16%
Nema Congestion	-	\$0.00	0.00%	\$13,454	0.53%
Coop Resales	3,087	\$201.40	0.01%	\$622	0.02%
Hydro Projects*	5,205,431	\$45.76	9.64%	\$238,211	9.42%
Braintree Watson Unit	59,670	-\$67.20	0.11%	-\$4,010	-0.16%
Saddleback/Jericho Wind	2,453,059	\$107.79	4.54%	\$264,419	10.46%
Community Solar	531,254	\$73.89	0.98%	\$39,255	1.55%
Exelon	6,152,700	\$39.09	11.40%	\$240,509	9.51%
Stonybrook Peaking	33,568	\$189.73	0.06%	\$6,369	0.25%
Monthly Total	53,986,158	\$46.84	100.00%	\$2,528,545	100.00%

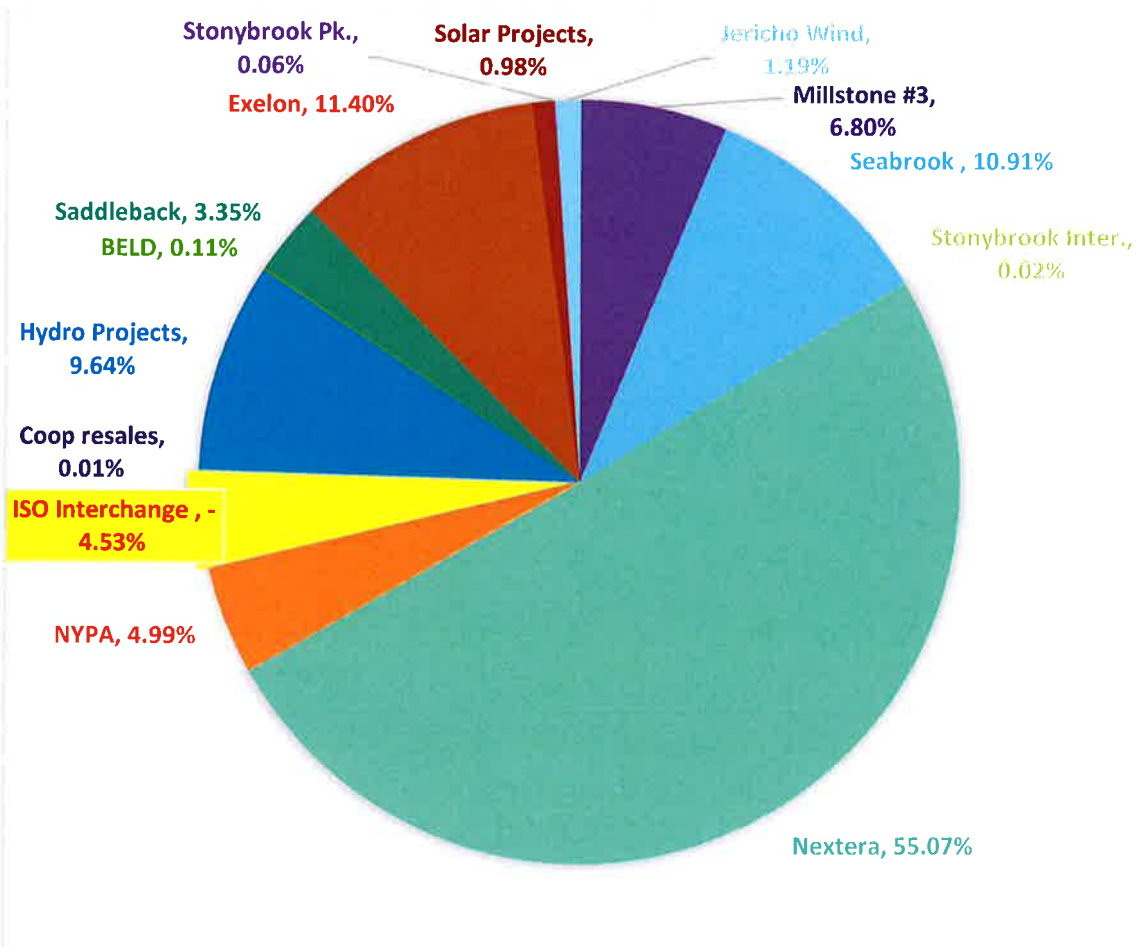
*\*Pepperell, Woronoco, Indian River, Turner Falls, Collins, Pioneer, Hosiery Mills, Aspinook Hydro*

Table 2 breaks down the ISO interchange between the DA LMP Settlement and the RT Net Energy for the month of March 2019.

Table 2			
Resource	Amount of Energy (kWh)	Cost of Energy (\$/Mwh)	% of Total Energy
ISO DA LMP *	3,878,403	\$30.08	7.18%
RT Net Energy **	(6,323,808)	\$41.65	-11.71%
ISO Interchange (subtotal)	(2,445,405)	\$12.03	-4.53%

\* Independent System Operator Day-Ahead Locational Marginal Price

**MARCH 2019 ENERGY BY RESOURCE**





## CAPACITY

The RMLD hit a demand of 98,914 kW, which occurred on Tuesday, February 12, 2019 at 6 pm. The RMLD's monthly UCAP requirement for February, was 235,375 kW.

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

Source	Amount (kW)	Cost (\$/kW-month)	Total Cost \$	% of Total Cost
Millstone #3	4,950	22.77	\$112,706	5.70%
Seabrook	7,914	18.99	\$150,256	7.60%
Stonybrook Peaking	24,980	1.73	\$43,274	2.19%
Stonybrook CC	42,925	3.41	\$146,267	7.40%
NYPA	0	0.00	-\$15,056	-0.76%
Hydro Quebec	0	0	-\$60,340	-3.05%
Braintree Watson Unit	0	0.00	-\$1,594	-0.08%
ISO-NE Supply Auction	154,606	10.36	\$1,601,918	81.01%
<b>Total</b>	<b>235,375</b>	<b>\$8.40</b>	<b>\$1,977,432</b>	<b>100.00%</b>

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

Resource	Energy	Capacity	Total cost	% of Total Cost	Amt of Energy (kWh)	Cost of Power (\$/kWh)
Millstone #3	\$46,836	\$112,706	\$159,542	3.54%	3,671,481	\$0.0435
Seabrook	\$31,042	\$150,256	\$181,298	4.02%	5,887,752	\$0.0308
Stonybrook Intermediate	\$2,128	\$146,267	\$148,395	3.29%	10,984	\$13.5101
Hydro Quebec	\$0	-\$60,340	-\$60,340	-1.34%	-	\$0.0000
NextEra/EDF	\$1,665,880	\$0	\$1,665,880	36.97%	29,730,586	\$0.0560
* NYPA	\$13,245	\$0	\$13,245	0.29%	2,691,991	\$0.0049
NYPA FCM Credit	\$0	-\$15,056	-\$15,056	-0.33%	-	\$0.0000
ISO Interchange	-\$29,414	0	-\$29,414	-0.65%	(2,445,405)	\$0.0120
ISO Capacity	\$0	\$1,601,918	\$1,601,918	35.55%	-	\$0.0000
Nema Congestion	\$13,454	\$0	\$13,454	0.30%	-	\$0.0000
* Hydro Projects	\$238,211	\$0	\$238,211	5.29%	5,205,431	\$0.0458
Braintree Watson Unit	-\$4,010	-\$1,594	-\$5,604	-0.12%	59,670	-\$0.0939
* Saddleback/Jericho	\$264,419	\$0	\$264,419	5.87%	2,453,059	\$0.1078
* Burlington & Community Solar	\$39,255	\$0	\$39,255	0.87%	531,254	\$0.0739
Coop Resales	\$622	\$0	\$622	0.01%	3,087	\$0.2014
Exelon Energy	\$240,509	\$0	\$240,509	5.34%	6,152,700	\$0.0391
Stonybrook Peaking	\$6,369	\$43,274	\$49,643	1.10%	33,568	\$1.4789
<b>Monthly Total</b>	<b>\$2,528,545</b>	<b>\$1,977,432</b>	<b>\$4,505,977</b>	<b>100.00%</b>	<b>53,986,158</b>	<b>\$0.0835</b>

\*Renewable Resources; per RMLD Board Policy, any RECs are sold to offset energy costs for all customers.

## RENEWABLE ENERGY CERTIFICATES (RECs)

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

REC Classification	RECs Projected	2018/2019		Revenue* Potential	Revenue** Received
		RECs Sold	BID Current		
CT 1	14,157	3,884	16.50	\$233,582	\$28,589
MA 1	3,225	1,033	16.50	\$53,206	\$7,649
MA/CT/RI/NH1	21,152	8,163	16.25	\$343,720	\$66,055
MA/RI/NH 1	11,083	3,654	16.00	\$177,328	\$27,222
MA 2	6,534	2,115	26.00	\$169,884	\$54,403
<b>Totals</b>	<b>56,150</b>	<b>18,849</b>		<b>\$977,720</b>	<b>\$183,917</b>

\*RECs projected sold at current bid prices

\*\*Total dollars to date for RECs sold

## TRANSMISSION

The RMLD's total transmission costs for the month of March 2019, were \$949,421. This is a decrease of 13.30% from the February 2019 transmission cost of \$1,095,360. In March 2018, the transmission costs were \$927,237.

	Current Month	Last Month	Last Year
Peak Demand (kW)	92,760	98,914	90,379
Energy (kWh)	53,986,158	51,211,706	54,926,092
Energy (\$)	\$2,528,545	\$2,732,204	\$2,668,846
Capacity (\$)	\$1,977,432	\$1,980,596	\$1,869,640
Transmission(\$)	\$949,421	\$1,095,360	\$927,237
<b>Total</b>	<b>\$5,455,397</b>	<b>\$5,808,160</b>	<b>\$5,465,722</b>

# ENGINEERING & OPERATIONS REPORT ATTACHMENT 3

# **ENGINEERING & OPERATIONS REPORT**

Hamid Jaffari, Director of Engineering & Operations

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**RMLD Board of Commissioners Meeting**  
**May 23, 2019**

# Major Construction Projects

## Currently Underway or Recently Completed

- **Station 4 – 4W5/4W12 Getaway Improvements at Station 4 (Capital Project)**  
Construction within Station 4 has been completed. The overhead portion of this project has continued and once completed the new lines will be energized and brought online. The new feed for the 4W12 is expected to be online by the end of May. The 4W5 is still on schedule for completion prior to the summer of 2019. **Status:** *In-progress*
- **Station 4 – 4W6 and 4W16 Getaway Replacement Projects (Capital Projects)**  
Preliminary work has begun simultaneously on these two projects. Crews have rodded and cleared manholes. Upon completion of the 4W5/4W12 project, it is expected that the 4W6 getaway replacement shall commence. **Status:** *In-progress*
- **Grid Modernization – SCADA-Mate Switches (Capital Project)**  
Six new switches have been received and installation will be scheduled over the coming months. In May RMLD installed one switch on Butters Row in Wilmington; radio is pending installation to bring switch on-line. **Status:** *In-progress*

# Major Construction Projects

(continued)

➤ **Station 3 – Battery Storage Project (Capital Project)**

E&O continues to assist IRD to bring the BESS (Battery Energy Storage System) online, and upon interconnection, will continue to support the BESS for dispatching and other needs as required. RMLD expects acceptance testing and commissioning of the system to commence in May of 2019.

**Status:** *In-progress*



Major Components of the BESS: 2 battery enclosures and 2 inverters

# Major Construction Projects

(continued)

## ➤ Jonspin Road Switchgear Replacement (Capital Project)

On May 4th crews replaced pad-mounted switchgear #2 that feeds 46 and 65 Jonspin Road, Wilmington. On May 11th crews replaced pad-mounted switchgear #3 that feeds 72 Jonspin Road, the Ashwood Avenue underground subdivision and the future feed to the new building at 58 Jonspin Road. In total, we have replaced three out of the six pad-mounted switchgears on Jonspin Road. **Status: Complete**



**BEFORE**

## SWITCH 2



**AFTER**

# Area Upgrade Projects

## Currently Underway or Recently Completed

### Underground Facilities Upgrades

- *Gloria Lane, North Reading* – One aged pad-mount transformer as well as the riser pole and all of the underground cable was replaced. **Status: Complete**

### Stepdown Area Upgrades

- *Essex St Conversion, Lynnfield* - RMLD converted the distribution voltage from the stepdown transformer on pole 58 on Essex Street from 2,400 volts to 7,970 volts. This provided service to one pole-mount transformer on Essex Street, and four pad-mount transformers in the Woodwinds Estate (Jordan Road, Currie Circle and Evans Road). Prior to converting the distribution voltage, RMLD upgraded three of four transformers in Woodwind Estate and during the conversion upgraded the pole-mount transformer on Essex Street. The conversion was completed by de-energize the area, changing the ratio switches on each transformer from 2,400 to 7,970, changing all the fuses, disconnecting and removing the stepdown transformer and re-energizing at 7,970 volts directly from circuit 3W8 on Essex Street. **Status: Complete**



# Maintenance Programs

- Aged Transformer Replacement (thru April) – Pad-mount: 39.38% replaced Overhead: 24.93% replaced
- Pole Inspection/Replacement Program – 260 poles set 232 transfers completed
- Tree Trimming – 229 spans in March 510 spans YTD through March
- 2019 Inspection of Feeders –
  - 3W5, 3W6, 3W7, 3W8, 3WI3, 3WI4, 3WI5 and 3WI8 Inspected
  - 4W4, 4W5, 4W6, 4W7, 4W9, 4WI0, 4WI2, 4WI6, 4WI7, 4WI8, 4WI9 Inspected
- Infrared Scans – Completed through April - No Hot Spots Found
- Manhole Inspection – on-going
- Porcelain Cutout Replacement – on-going

# Double Poles

## Per NJUNS

(as of 5/14/19)

### LYNNFIELD

"Next to Go"	# of Tickets
<b>RMLD</b>	<b>29</b>
Transfer	28
Pull Pole	1
<b>CMCTNR - Comcast</b>	<b>8</b>
Transfer	8
<b>LFLDFD - Lynnfield Fire Dept.</b>	<b>3</b>
Transfer	3
<b>GRAND TOTAL</b>	<b>40</b>

### READING

"Next to Go"	# of Tickets
<b>VZNESA - Verizon</b>	<b>0</b>
Transfer	
<b>RMLD</b>	<b>35</b>
Transfer	30
Pull Pole	5
<b>CMCTNR - Comcast</b>	<b>9</b>
Transfer	9
<b>RDNGFD - Reading Fire Dept.</b>	<b>11</b>
Transfer	11
<b>LTFMA - Lighttower Fiber</b>	<b>1</b>
Transfer	1
<b>NP3PMA - Non-Participating 3rd Party Attachee</b>	<b>3</b>
Transfer	3
<b>GRAND TOTAL</b>	<b>59</b>

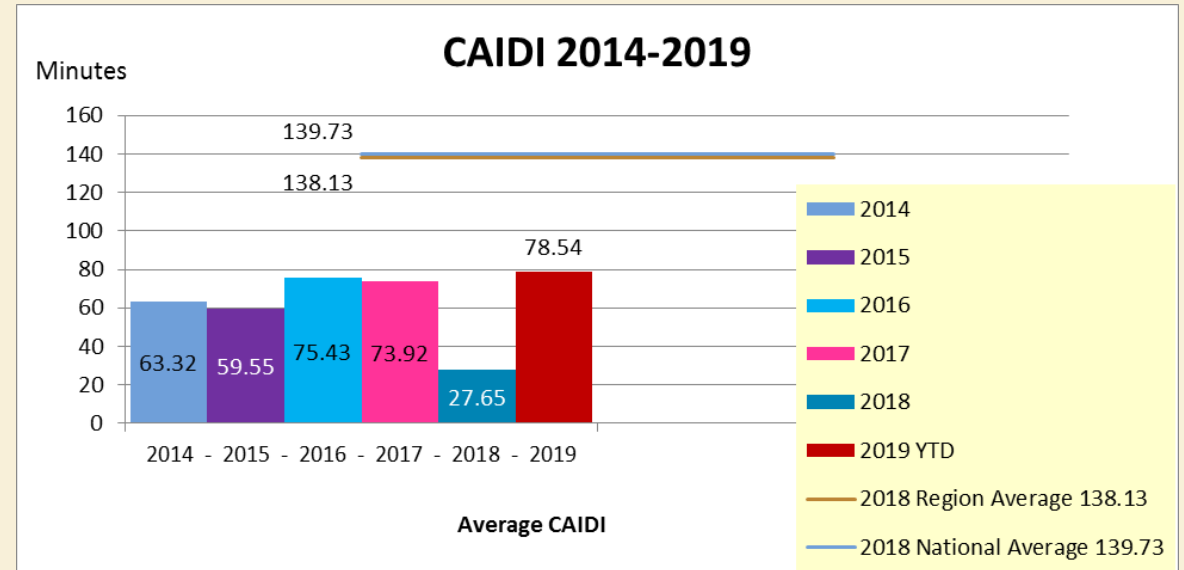
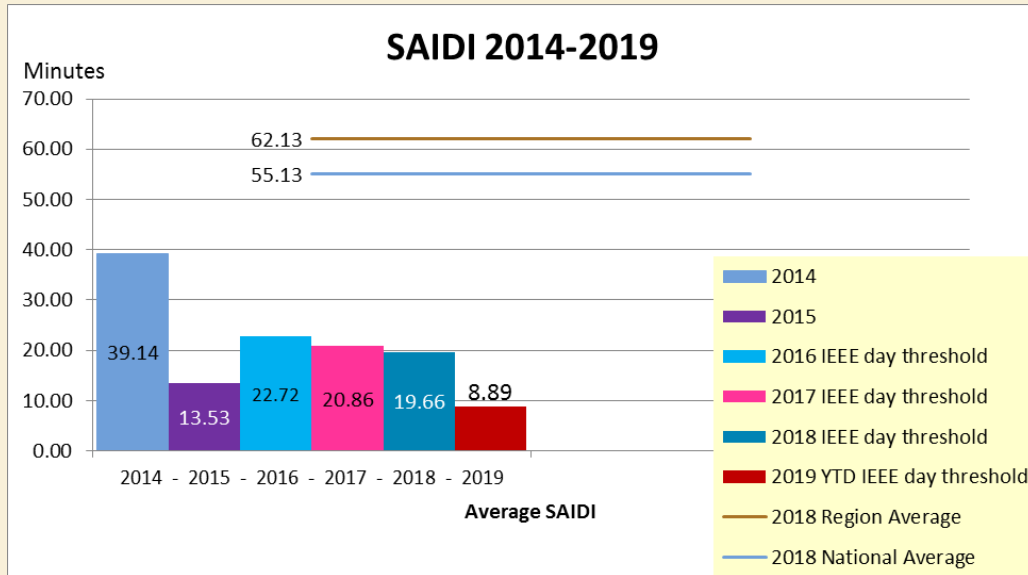
### NORTH READING

"Next to Go"	# of Tickets
<b>VZNEDR - Verizon</b>	<b>2</b>
Transfer	2
<b>RMLD</b>	<b>19</b>
Transfer	3
Pull Pole	16
<b>CMCTNR - Comcast</b>	<b>3</b>
Transfer	3
<b>NRDGF - North Reading Fire Dept.</b>	<b>1</b>
Transfer	1
<b>LTFMA - Lighttower Fiber</b>	<b>0</b>
Transfer	
<b>GRAND TOTAL</b>	<b>25</b>

### WILMINGTON

"Next to Go"	# of Tickets
<b>VZNEDR - Verizon</b>	<b>9</b>
Transfer	5
Pull Pole	4
<b>RMLD</b>	<b>11</b>
Transfer	10
Pull Pole	1
<b>CMCTNR - Comcast</b>	<b>13</b>
Transfer	13
<b>WMGNFD - Wilmington Fire Dept.</b>	<b>31</b>
Transfer	31
<b>LTFMA - Lighttower Fiber</b>	<b>2</b>
Transfer	2
<b>VZBMA - Verizon Business</b>	<b>1</b>
Transfer	1
<b>GRAND TOTAL</b>	<b>67</b>

# RMLD Reliability Indices

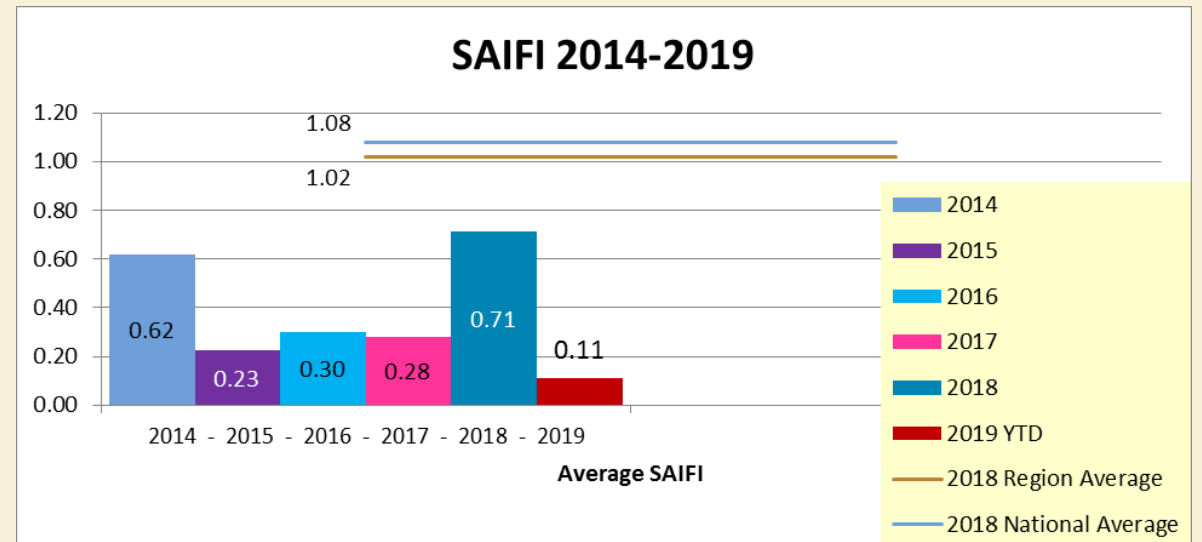


$$SAIDI \text{ (Minutes)} = \frac{\text{Total Duration of Customer Interruptions}}{\text{Total Number of Customers Served}}$$

$$CAIDI \text{ (Minutes)} = \frac{\text{Total Duration of Customer Interruptions}}{\text{Total Number of Customers Interruptions}}$$

**Note:** The major event (ME) threshold allows a utility to remove outages that exceed the IEEE 2.5 beta threshold for events. These events could be severe weather, which can lead to unusually long outages in comparison to your distribution system's typical outage.

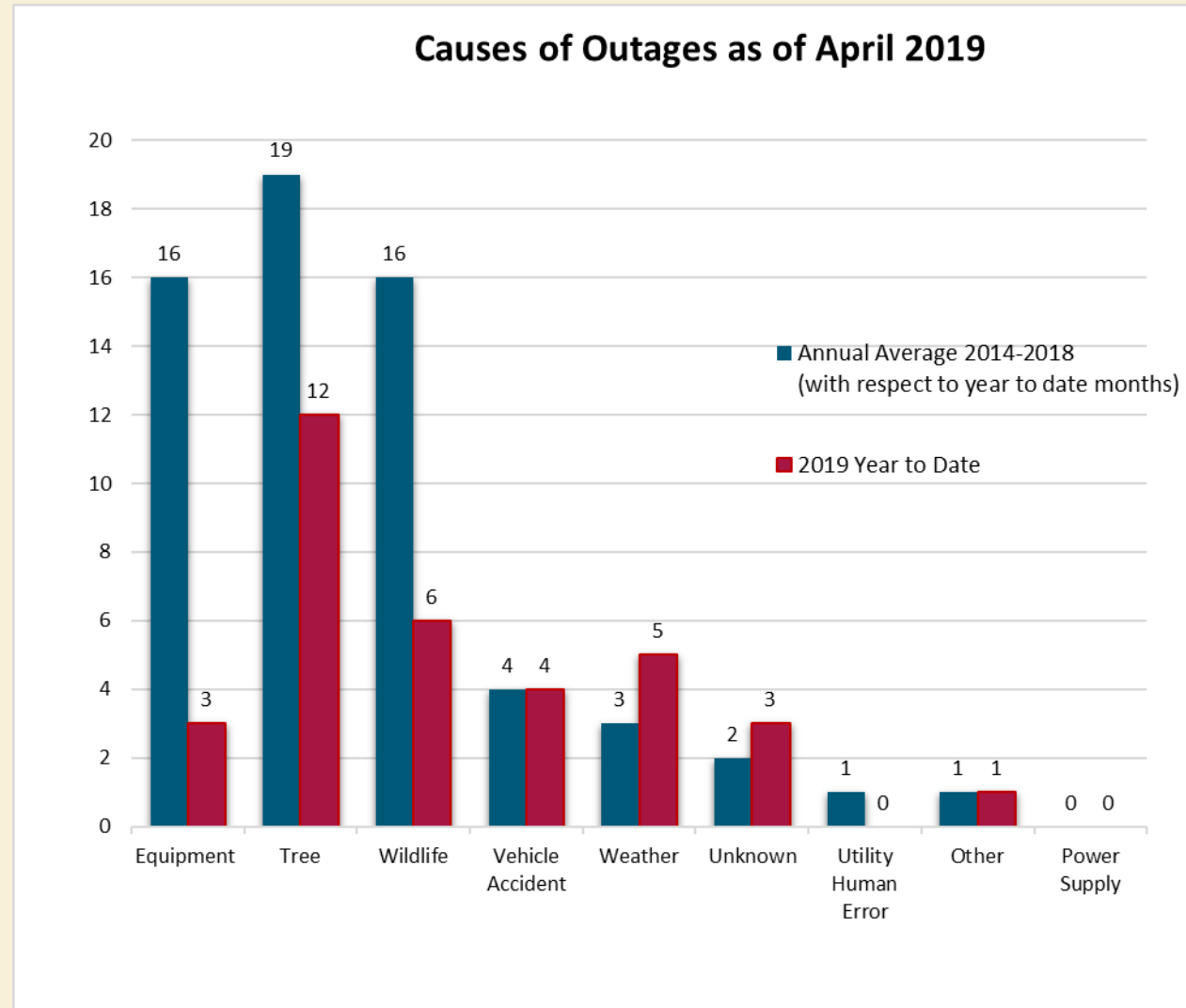
$$SAIFI = \frac{\text{Total Number of Customer Interruptions}}{\text{Total Number of Customers Served}}$$



Regional and national averages have been updated for 2018.

2019 data from January through March

# Outages



**Recent Significant Outage Events:** May 3<sup>rd</sup> - VanNorden/Forest Street Area, Reading, a large tree fell on wires (82 customers out for approximately one hour, 45 minutes).

**CAPITAL SPENDING YTD**  
**(All Divisions)**  
**January through March 2019**

	<b>ACTUAL YTD</b>	<b>BUDGET</b>	<b>REMAINING BALANCE</b>
Engineering and Operations	\$1,161,845	\$6,211,197	\$5,049,351
Facilities	-	\$1,030,282	\$1,030,282
Integrated Resources Division	\$22,598	\$80,000	\$57,402
Information Technology	\$6,915	\$483,000	\$476,085
<b>TOTAL:</b>	<b>\$1,191,358</b>	<b>\$7,804,479</b>	<b>\$6,613,120</b>

BOARD MATERIAL AVAILABLE  
BUT NOT DISCUSSED

**From:** [Tracy Schultz](#)  
**To:** [RMLD Board Members Group](#); [David Hennessy](#)  
**Subject:** AP and Payroll Questions for 5-23-19 Board Book  
**Date:** Thursday, May 16, 2019 1:50:00 PM

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Good afternoon,

AP:

On April 19<sup>th</sup> there were no Commissioner questions.

On April 26<sup>th</sup> there were no Commissioner questions.

On May 3<sup>rd</sup> there were no Commissioner questions.

On May 10<sup>th</sup> there were no Commissioner questions.

Payroll:

On April 29<sup>th</sup> there were no Commissioner questions.

On May 13<sup>th</sup> there were no Commissioner questions.

This e-mail will be included in the 5-23-19 Board Book.

Tracy Schultz  
Executive Assistant  
**Reading Municipal Light Department**  
230 Ash Street. Reading. MA. 0186  
Tel: 781.942.6489

Town of Reading, Massachusetts  
Municipal Light Department  
Business Type Proprietary Fund  
Statement of Revenues and Expenses  
3/31/2019

	Month 1/31/2019	Month 2/28/2019	Month 3/31/2019	Year to Date Current Year	Budget Full Year	Budget 3 Mos Ended 3/31/2019	Budget to Actual Over/(Under)	Budget to Actual % of Change	Remaining Budget %
<b>Operating Revenues</b>									
Base Revenue	\$ 2,369,443	\$ 2,344,597	\$ 2,124,484	\$ 6,838,524	\$ 27,761,148	\$ 6,940,287	\$ (101,763)	(1.5%)	75.4%
Fuel Revenue	2,043,326	2,284,011	2,159,595	6,486,932	30,326,893	7,581,723	(1,094,791)	(14.4%)	78.6%
Purchased Power Capacity & Transmission	2,940,870	3,278,072	2,937,513	9,156,454	37,756,892	9,439,223	(282,769)	(3.0%)	75.7%
Forfeited Discounts	89,715	61,635	71,653	223,003	832,834	208,209	14,795	7.1%	73.2%
Energy Conservation Revenue	50,875	56,529	50,202	157,606	662,081	165,520	(7,915)	(4.8%)	76.2%
NYPA Credit	(97,936)	(123,640)	(110,063)	(331,639)	(1,200,000)	(300,000)	(31,639)	10.5%	72.4%
<b>Total Operating Revenues</b>	<b>7,396,293</b>	<b>7,901,204</b>	<b>7,233,383</b>	<b>22,530,880</b>	<b>96,139,849</b>	<b>24,034,962</b>	<b>(1,504,082)</b>	<b>(6.3%)</b>	<b>76.6%</b>
<b>Expenses</b>									
<b>Power Expenses:</b>									
547 Purchased Power Fuel	3,192,434	2,732,204	2,532,521	8,457,158	29,126,893	7,281,723	1,175,435	16.1%	71.0%
555 Purchased Power Capacity	2,006,823	1,985,450	1,981,159	5,973,432	22,789,837	5,697,459	275,972	4.8%	73.8%
565 Purchased Power Transmission	1,013,209	1,095,360	949,421	3,057,990	14,967,055	3,741,764	(683,774)	(18.3%)	79.8%
<b>Total Purchased Power</b>	<b>6,212,466</b>	<b>5,813,014</b>	<b>5,463,100</b>	<b>17,488,579</b>	<b>66,883,785</b>	<b>16,720,946</b>	<b>767,633</b>	<b>4.6%</b>	<b>73.9%</b>
<b>Operations and Maintenance Expenses:</b>									
580 Supervision and Engineering	84,784	79,182	60,312	224,277	1,083,959	270,990	(46,712)	(17.2%)	79.3%
581 Station/Control Room Operators	52,671	35,825	38,830	127,326	481,952	120,488	6,838	5.7%	73.6%
582 Station Technicians	31,031	30,356	34,777	96,164	522,365	130,591	(34,427)	(26.4%)	81.6%
583 Line General Labor	32,678	16,591	11,507	60,776	336,000	84,000	(23,224)	(27.6%)	81.9%
585 Street Lighting	-	-	-	-	50,722	12,681	(12,681)	(100.0%)	100.0%
586 Meter General	9,271	4,915	6,436	20,622	217,383	54,346	(33,724)	(62.1%)	90.5%
588 Materials Management	31,357	37,059	32,950	101,367	442,061	110,515	(9,149)	(8.3%)	77.1%
593 Maintenance of Lines - Overhead	62,144	56,408	75,600	194,153	707,122	176,781	17,372	9.8%	72.5%
593 Maintenance of Lines - Tree Trimming	3,585	5,649	37,843	47,077	899,534	224,884	(177,806)	(79.1%)	94.8%
594 Maintenance of Lines - Underground	2,983	7,348	12,611	22,942	405,151	101,288	(78,346)	(77.3%)	94.3%
595 Maintenance of Line - Transformers	371	5,695	4,025	10,091	406,496	101,624	(91,533)	(90.1%)	97.5%
598 Line General Leave Time Labor	48,490	33,053	15,179	96,722	283,299	70,825	25,897	36.6%	65.9%
<b>Total Operations and Maintenance</b>	<b>359,365</b>	<b>312,082</b>	<b>330,071</b>	<b>1,001,518</b>	<b>5,836,044</b>	<b>1,459,011</b>	<b>(457,493)</b>	<b>(31.4%)</b>	<b>82.8%</b>
<b>General &amp; Administration Expenses:</b>									
902 Meter Reading	483	503	634	1,620	34,100	8,525	(6,905)	(81.0%)	95.3%
903 Customer Collections	94,508	99,062	83,780	277,350	1,154,199	288,550	(11,200)	(3.9%)	76.0%
904 Uncollectible Accounts	12,500	12,500	12,500	37,500	105,000	26,250	11,250	42.9%	64.3%
916 Energy Audit	38,210	38,948	35,788	112,946	504,550	126,138	(13,192)	(10.5%)	77.6%
916 Energy Conservation	40,628	51,347	46,004	137,980	984,118	246,030	(108,050)	(43.9%)	86.0%
920 Administrative and General Salaries	158,810	154,070	138,041	450,921	2,050,263	512,566	(61,645)	(12.0%)	78.0%
921 Office Supplies and Expense	1,050	842	1,569	3,462	20,000	5,000	(1,538)	(30.8%)	82.7%
923 Outside Services - Legal	-	250	76,065	76,315	532,900	133,225	(56,910)	(42.7%)	85.7%
923 Outside Services - Contract	2,470	5,083	31,170	38,723	385,700	96,425	(57,702)	(59.8%)	90.0%
923 Outside Services - Education	1,600	6,770	3,695	12,066	243,893	60,973	(48,908)	(80.2%)	95.1%
924 Property Insurance	29,036	29,016	29,016	87,068	426,200	106,550	(19,482)	(18.3%)	79.6%
925 Injuries and Damages	3,656	1,007	4,556	9,219	56,411	14,103	(4,884)	(34.6%)	83.7%
926 Employee Pensions and Benefits	521,148	175,663	367,715	1,064,526	3,581,615	895,404	169,122	18.9%	70.3%
930 Miscellaneous General Expense	3,598	11,498	11,324	26,420	493,477	123,369	(96,949)	(78.6%)	94.6%
931 Rent Expense	26,891	13,446	16,316	56,653	212,000	53,000	3,653	6.9%	73.3%
933 Vehicle Expenses	3,966	33,621	31,117	68,705	311,200	77,800	(9,095)	(11.7%)	77.9%
933 Vehicle Expenses - Capital	(23,439)	(24,445)	(29,118)	(77,001)	(253,362)	(63,341)	(13,661)	21.6%	69.6%
935 Maintenance of General Plant	31,544	11,228	35,822	78,593	385,000	96,250	(17,657)	(18.3%)	79.6%
935 Maintenance of Building & Garage	45,001	63,190	64,680	172,871	996,808	249,202	(76,331)	(30.6%)	82.7%
<b>Total General &amp; Administration Expenses</b>	<b>991,661</b>	<b>683,600</b>	<b>960,676</b>	<b>2,635,937</b>	<b>12,224,072</b>	<b>3,056,018</b>	<b>(420,081)</b>	<b>(13.7%)</b>	<b>78.4%</b>
<b>Other Operating Expenses:</b>									
403 Depreciation	377,166	377,166	377,166	1,131,498	4,524,000	1,131,000	498	0.0%	75.0%
408 Voluntary Payments to Towns	130,806	130,806	130,806	392,418	1,570,860	392,715	(297)	(0.1%)	75.0%
<b>Total Other Expenses</b>	<b>507,972</b>	<b>507,972</b>	<b>507,972</b>	<b>1,523,916</b>	<b>6,094,860</b>	<b>1,523,715</b>	<b>201</b>	<b>0.0%</b>	<b>75.0%</b>
<b>Operating Income</b>	<b>(675,171)</b>	<b>584,537</b>	<b>(28,436)</b>	<b>(119,070)</b>	<b>5,101,088</b>	<b>1,275,272</b>	<b>(1,394,342)</b>	<b>(109.3%)</b>	<b>102.3%</b>
<b>Non Operating Revenues (Expenses):</b>									
415 Contribution in Aid of Construction	-	-	-	-	-	-	-	-	-
419 Interest Income	36,506	35,571	46,438	118,515	175,000	43,750	74,765	170.9%	32.3%
419 Other	247,382	16,864	40,953	305,199	850,000	212,500	92,699	43.6%	64.1%
426 Return on Investment to Reading	(206,709)	(206,709)	(206,709)	(620,126)	(2,480,506)	(620,127)	0	(0.0%)	75.0%
426 Loss on Disposal	-	-	-	-	(100,000)	(25,000)	25,000	(100.0%)	100.0%
431 Interest Expense	(14,593)	(1,261)	(1,303)	(17,157)	(16,000)	(4,000)	(13,157)	328.9%	(7.2%)
<b>Total Non Operating Revenues (Expenses)</b>	<b>62,586</b>	<b>(155,534)</b>	<b>(120,622)</b>	<b>(213,569)</b>	<b>(1,571,506)</b>	<b>(392,877)</b>	<b>179,307</b>	<b>(45.6%)</b>	<b>86.4%</b>
<b>Net Income (Loss)</b>	<b>\$ (612,584)</b>	<b>\$ 429,003</b>	<b>\$ (149,058)</b>	<b>\$ (332,639)</b>	<b>\$ 3,529,582</b>	<b>\$ 882,395</b>	<b>\$ (1,215,035)</b>	<b>(137.7%)</b>	<b>109.4%</b>



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

May-19

	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	\$130.04	\$223.89	\$148.82	\$1,033.78	\$202.12	\$4,770.15	\$867,042.28
PER KWH CHARGE	\$0.17339	\$0.14926	\$0.14882	\$0.14161	\$0.18714	\$0.13629	\$0.12603
<b>NATIONAL GRID</b>							
TOTAL BILL	\$180.05	\$351.09	\$197.31	\$1,507.96	\$231.62	\$5,854.27	\$1,001,320.06
PER KWH CHARGE	\$0.24006	\$0.23406	\$0.19731	\$0.20657	\$0.21446	\$0.16726	\$0.14555
% DIFFERENCE	38.46%	56.81%	32.58%	45.87%	14.60%	22.73%	15.49%
<b>EVERSOURCE(NSTAR)</b>							
TOTAL BILL	\$189.19	\$340.17	\$249.92	\$1,503.70	\$268.90	\$7,920.86	\$1,440,886.49
PER KWH CHARGE	\$0.25225	\$0.22678	\$0.24992	\$0.20599	\$0.24899	\$0.22631	\$0.20944
% DIFFERENCE	45.49%	51.94%	67.93%	45.46%	33.04%	66.05%	66.18%
<b>PEABODY MUNICIPAL LIGHT PLANT</b>							
TOTAL BILL	\$83.99	\$162.57	\$110.18	\$902.45	\$143.69	\$4,470.18	\$591,298.80
PER KWH CHARGE	\$0.11199	\$0.10838	\$0.11018	\$0.12362	\$0.13305	\$0.12772	\$0.08595
% DIFFERENCE	-35.41%	-27.39%	-25.96%	-12.70%	-28.91%	-6.29%	-31.80%
<b>MIDDLETON MUNICIPAL LIGHT DEPT.</b>							
TOTAL BILL	\$94.24	\$201.66	\$128.25	\$959.51	\$168.44	\$4,762.93	\$807,171.40
PER KWH CHARGE	\$0.12565	\$0.13444	\$0.12825	\$0.13144	\$0.15596	\$0.13608	\$0.11733
% DIFFERENCE	-27.53%	-9.93%	-13.83%	-7.18%	-16.66%	-0.15%	-6.91%
<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	-2.54%	5.37%	7.09%	16.35%	-5.16%	18.40%	10.26%