

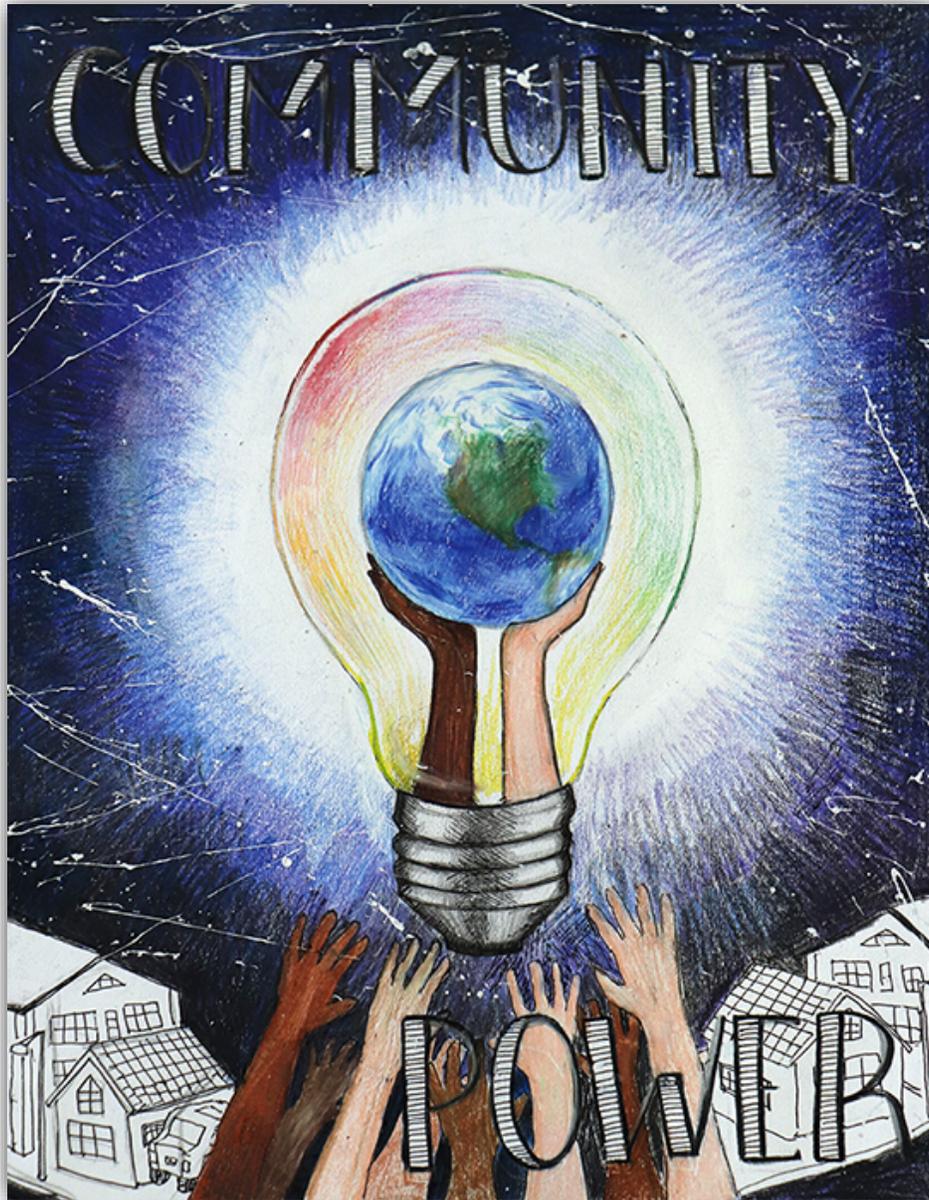
RMLD



Reading Municipal Light Department
RELIABLE POWER

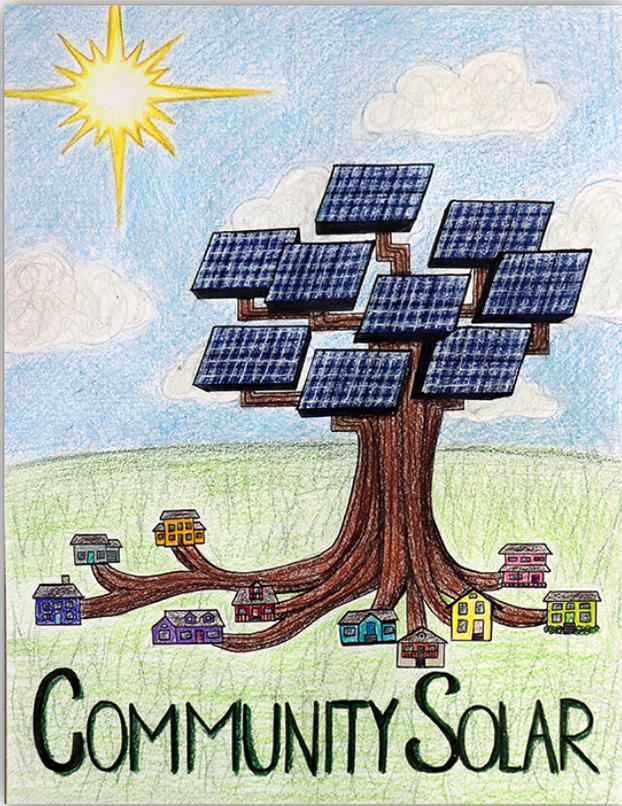
ANNUAL REPORT FY 2018

ELECTRIFICATION



“COMMUNITY POWER”
BY JESSE DING, WILMINGTON HIGH SCHOOL

HIGH SCHOOL STUDENT ART CONTEST – GLOBAL INSPIRATION AWARD WINNER

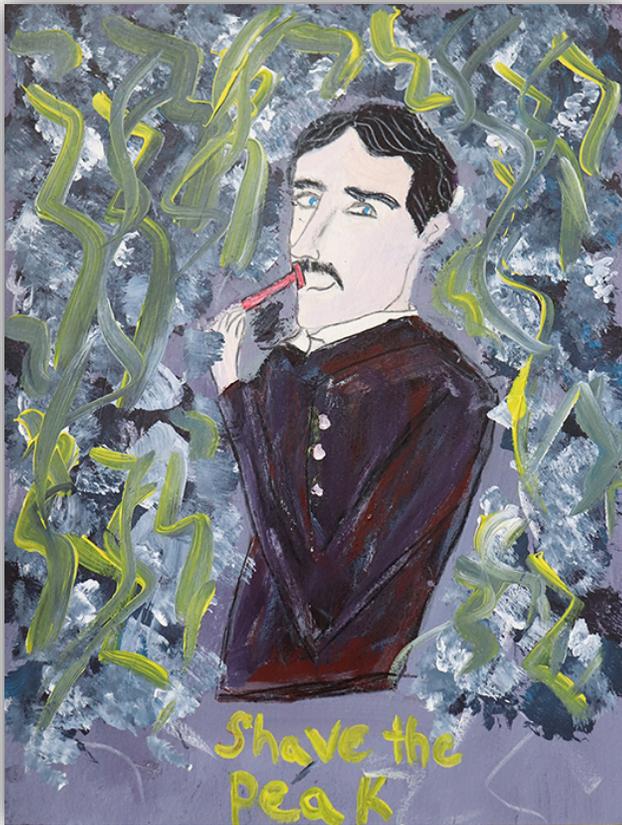


"GROWING A SUSTAINABLE FUTURE"
 BY MEGAN CORAM, READING MEMORIAL HIGH SCHOOL
 ENVIRONMENTAL INSPIRATION AWARD WINNER



"THE FOUNDATION OF CONSERVATION"
 BY LAURA BUSCEMI, NORTH READING HIGH SCHOOL
 COMMUNITY INSPIRATION AWARD WINNER

HIGH SCHOOL STUDENT ART CONTEST WINNERS



"NIKOLA TESLA SHAVES THE PEAK"
 BY JULIANNA CONNOR, NORTH READING HIGH SCHOOL
 CLEVER AWARD WINNER



"HARMONIOUS RELATIONSHIP"
 BY YUZHE TIAN, ST. JOHN'S PREP
 HOLISTIC AWARD WINNER

In Memoriam:
DAVE ERICSON

We all spend a great deal of time with our coworkers, and for many of us, they're like family. We lost one of our family this past September when Dave Ericson lost his battle with cancer. Dave worked at the RMLD for over 14 years, and was a lineman for over 30 years - he was a hard worker. As the line department representative on RMLD's safety committee, Dave always had great suggestions, many of which were implemented. His strong work ethic, dedication to family, and loyalty to friends and coworkers are what we'll remember most about Dave - he will be missed.



To our customers,

Electrification is best described as the movement to produce electricity with carbon free and renewable resources (supply-side) and then power everything efficiently with this electricity (demand-side). The nation-wide launch of electrification is upon us and is considered a necessity in achieving carbon emission reductions.

We are all familiar with the supply-side of electrification as we see rapid deployment of renewable energy sources across the US power grid. RMLD has wind, hydro, solar (including community solar), and carbon free nuclear as part of its power supply portfolio. Renewable sources like wind and solar are considered intermittent in producing power. RMLD has developed a balanced power supply mix that meets all of the electricity demands of the four towns, including filling in the gaps when solar and wind generation are not available. RMLD is also working with other Municipal Light Plants (MLPs) in Massachusetts to support new renewable projects in New England (NE), and to establish realistic goals for increasing the percentage of renewable resources within their portfolios. While each MLP maintains local control, the MLPs recognize the importance of doing their part in decarbonizing the global economy. Educating the public on the benefits and costs associated with electrifying the supply side is an important factor.



Electrification on the demand-side concerns end-use technologies in transportation, residential HVAC and water heating, and industrial processes. The projected increase in plug-in electric vehicles and electric powered air-source heat pumps for home heating/cooling and water heating are expected to have a significant impact. Evaluating electrification adoption and how this changes electricity consumption patterns, peak demands, etc., is critical to both the RMLD and NE electric grid systems. Specifically, what are the electrification technologies available for the highest energy consuming services like trains? How do the NE and the RMLD electric grids need to change to meet the demands of electrification? What are the costs, benefits and impacts of wide-spread electrification?

Answers to these questions are being developed by industry experts in parallel with the deployment of the technologies. We all remember having a bit of technology angst while buying a new laptop; what if they offer more memory, more options, better pixels, or a lower price tomorrow? We get stuck in analysis paralysis. At the end of the day, your student needs a laptop, so we must move forward.

RMLD has implemented several initiatives associated with electrification. To better communicate related programs, RMLD recently launched a brand new mobile- and user-friendly website. To address revenue generating opportunities through economic development programs, RMLD continues to develop and update strategic plans for each division and the department as a whole. Key rebate programs such as the Summer Pilot Plug-in Electric Vehicle (PEV) program for residential customers contribute to economic development and allow the RMLD to analyze related usage patterns. Rebates on smart chargers enable for programming to encourage off-peak use. RMLD also installed four dual-port Electric Vehicle (EV) charging stations this year (one of which is located in the parking lot of RMLD's main office), and has plans to install one dual-port charging station in CY 2019 in each community we serve.

The analysis supporting the implementation of new technology is challenging. We have to balance whether we build, and they will come, or whether the public demand is already there; stay ahead of the curve or wait for the wheel to be invented. Every dollar spent must be carefully evaluated within this world of constant change to justify the cost benefit.

As end-use technologies move to electrification, we move forward to make our planet healthier. At the same time the movement to electrification also supports healthy sales for your utility, which allows the RMLD to continue to meet its mission to provide competitively priced electricity, system reliability, and excellent customer service.

Sincerely,

A handwritten signature in black ink that reads "Coleen O'Brien".

Coleen O'Brien
General Manager



Founded in 1894, Reading Municipal Light Department (RMLD) is a municipal electric utility serving Reading, North Reading, Wilmington, and Lynnfield Center. RMLD is the largest (in terms of electrical load) of 41 Massachusetts municipal light utilities and is not-for-profit, locally owned, and locally controlled.

A Board of Light Commissioners elected by Reading voters governs the utility. A Citizens' Advisory Board, appointed by the four communities we serve, makes recommendations to the Board of Commissioners.



RMLD Board of Commissioners



David Hennessy
Chair



David Talbot
Vice-Chair



Thomas O'Rourke
Commissioner



Philip Pacino
Commissioner



John Stempeck
Commissioner

RMLD Citizens' Advisory Board



George Hooper, Chair - Wilmington (left)
Jason Small, Vice-Chair - North Reading (middle left)
Dennis Kelley, Secretary - Wilmington (middle)
Vivek Soni - Lynnfield Representative (middle right)
Neil Cohen - Reading Representative (right)

PLANNING FOR ELECTRIFICATION

Increased electrification, or the shift to electric powered items, has the potential to impact electric utilities in many ways. While this trend may offset flat or declining electricity sales, it will also require utilities like the RMLD to carefully consider the impact to power supply planning, electricity markets, utility planning, grid operations, reliability, and energy efficiency programs.

Several of RMLD's ongoing and upcoming initiatives are essential to being prepared for this industry shift. To effectively plan, each division continues to develop and update intermediate and long-term strategic plans. System improvements as part of a comprehensive ten-point infrastructure maintenance plan are ongoing and are critical to keeping RMLD's grid healthy and in good working order. Technology improvements including the expansion of RMLD's smart grid and the implementation of an Outage Management System (OMS) will improve operating efficiency.

Peak demand reduction will continue to be a main focus in the era of increased electrification due to the potential increase in electricity usage and shift in usage patterns. Within its system, RMLD has two community solar arrays and a 2.5-megawatt gas generator to reduce wholesale electricity usage during peaks, and with the help of a \$1 million grant from the Commonwealth, plans to install a 5-megawatt battery storage unit in 2019 to be used in conjunction with the generator. The Peak Demand Reduction (PRD) program incentivizes large commercial customers to reduce their usage during peaks, and our Shred the Peak campaign educates customers on the impact of peaks and encourages conservation during expensive peak demand times.

RMLD must continue to support our customers by providing relevant and timely programs to facilitate energy efficient electrification. Plug-in electric vehicles and electric heat-pumps are anticipated to be major factors in the electrification trend. RMLD offers rebates on electric vehicle charging stations to both residential and commercial customers.

Participation in RMLD's recent residential Plug-in Electric Vehicle (PEV) Pilot Rebate Program was much higher than anticipated, and the data collected will provide guidance in determining future programs. RMLD also offers customers a rebate of \$500 on the purchase of an air-source heat pump and \$500 on the purchase of a heat pump hot water heater as part of its residential Energy Star Appliance Rebate Program. Details on RMLD rebate programs can be found at www.rml.com.

RMLD continues to adapt its communication strategies to keep up with the rapidly evolving world of communication technologies. In June, RMLD launched its new website, which was redesigned to be user and mobile friendly. RMLD continues to use existing tools such as email marketing to share information about RMLD programs and services, and Twitter to share information on area outages and Shred the Peak alerts. RMLD is also in the process of implementing an Interactive Voice Response (IVR) system that will work in conjunction with the new OMS.

The main function of the IVR system is to provide capabilities to effectively and efficiently automate outage communications while easing the burden on dispatchers and other personnel investigating and troubleshooting system interruptions. The system will accept automated outage reports directly from the meter and send status notifications to affected customers who have opted in via their preferred method of communication (phone, text, and/or email). Customers will have the opportunity to opt in and select their preferred method of communication on RMLD's website in the coming months. An online outage map with real-time information on area outages is also part of this initiative and will be available on RMLD's website. These new communication tools are expected to be available in the second quarter of 2019.



FY 2018 Statistics

System peak demand	145,294 kW occurring on July 19, 2017, at 5:00 pm. This was 15.8% lower than the highest peak demand of 172,493 kW set in August 2006.
Retail sales	665,031,434 kWh
Customer calls for service	3,189
Pole installations/replacements	164
Meter replacements	446
DigSafe calls	3,722
New services	Reading – 20 residential; 6 commercial/industrial North Reading – 11 residential; 1 commercial/industrial Lynnfield – 1 residential; 1 commercial/industrial Wilmington – 58 residential; 4 commercial/industrial TOTAL: 90 new residential services represent a 5% decrease from those installed in FY 2017 12 new commercial/industrial services represent a 60% decrease from those installed in FY 2017

FY 2018 HIGHLIGHTS

RMLD continues to advance its programs and initiatives to improve overall electric system performance and increase organizational efficiency and productivity. Highlights from FY 2018 include:

- As of January 1, 2019, RMLD will be on a calendar year budget to align with Department of Public Utilities reporting;
- Continued strategic planning to address revenue generating opportunities through economic development and programs;
- Awarded \$1 million grant by the Commonwealth's Energy Storage Initiative (ESI) Advancing Commonwealth Energy Storage (ACES) program for the installation of a 5 MW energy storage unit to support Shredding the Peak;
- Installed Outage Management System (OMS) to improve operating efficiency and facilitate customer communication;
- Launched new mobile-friendly website with format to facilitate strategic objectives;
- Initiated installation of Integrated Voice Response (IVR) System for automated outage communications via phone, text, and email with roll out expected in winter of 2019;
- Added 100% electric Chevy Bolt to fleet, installed multiple electric vehicle charging stations (including one at RMLD), launched Pilot Plug-in Electric Vehicle (PEV) Rebate Program, and conducted PEV public outreach campaign;

- Completed significant system reliability upgrades throughout RMLD service territory;
- Continued implementation of meter mesh network program;
- Continued new Wilmington substation land purchase and design; construction planned for 2020/2021 to address existing capacity;
- Continued implementation of Organizational Study; and
- Achieved clean financial audit with no management letter.

Staff's FY 2018 accomplishments are detailed on the following pages.

LEADERSHIP

- Continued to delegate, monitor, mentor, and support the impact of culture changes resulting from transitioning the company from reactive to proactive;
- Continued the full policy review for legal compliance;
- Updated the comprehensive RMLD Service Requirements Handbook;
- Continued implementation of Organizational Study Recommendations (organizational restructure, talent management, talent acquisition, proficiencies, career development plans, succession planning, and best utility business practices);
- Continued implementation of Reliability Study Recommendations;
- Communicated effectively, frequently, and with transparency, to educate and inform the RMLD Board of Commissioners and the Citizens' Advisory Board (CAB), on the general information pertaining to the health and operations of RMLD, along with any issues relating to governance or unusual situations.
- Continued development of intranet, Division Dashboards, etc.;
- Increased regular senior staff meetings and continued quarterly company meetings;
- Continued strategic planning efforts including updating strategic road-maps in all divisions: Integrated Resources (wholesale power supply, retail programs/rebates), Finance, Engineering and Operations (system reliability), and Communications;
- Continued implementation of new smart grid system;
- Provided significant input and support of public power in legislative acts; and
- Established new renewable and sustainable portfolio resources to address greenhouse gas emissions.

COMMUNICATIONS AND COMMUNITY RELATIONS

- Completed redesign of RMLD website to be mobile- and user-friendly, thereby eliminating the need for RMLD's smartphone app;
- Held "Save Energy and Money" educational events in the four communities to promote energy efficiency and RMLD programs;
- Held ribbon cutting ceremony to commemorate the installation of RMLD's public electric vehicle charging station;
- Held 5th Annual Public Power Open House;
- Continued annual school education programs including Elementary Student Art Contest and High School Student Art Contest;
- Expanded Shred the Peak campaign to include alerts for potential monthly peaks in addition to alerts for the annual peak;
- Continued use and promotion of Twitter to communicate area outage information and Shred the Peak alerts, gaining over 1,000 new followers;
- Created the "Electrify Your Ride" article series to educate customers about topics related to plug-in electric vehicle ownership;
- Implemented a welcome email to educate new RMLD customers on available programs and services;
- Met with Town Managers and Boards of Selectman bi-annually and provided presentation updates;
- Implemented the Storm Liaison role to provide Town leadership a direct line of communication with RMLD during storms;
- Worked to develop a strong communication effort between Town Selectmen, RMLD Board of Commissioners, and CAB members;
- Continued working relationships with state and national utility associations;
- Communicated effectively with community and business interests in the four towns;
- Highlighted benefits of receiving electric service from RMLD in order to foster economic development to attract new customers and retain existing customers;
- Actively involved in industry changes at federal and state levels to mitigate impact. Issues included RGGI refund money, transmission and capacity increases, behind-the-fence generation and reconstitution;
- Continued relationship with ENE government affairs spokesperson from North Reading to support municipal agendas on The Hill; and
- Attended legislative rally in Washington D.C.

BUSINESS/FINANCE AND INFORMATION TECHNOLOGY

- Successful completion of the Financial Audit with positive results;
- Successful completion and approval of Operating Budget;
- Successful Department of Public Utilities return compilation and filing;
- Completed documentation of Strategic Plan outline for the Business Division;
- Successful completion of major upgrades to Great Plains and Cogsdale software systems;
- Completed New Avaya VoIP company-wide phone system installation and upgrade and the removal of dozens of expensive analog lines;
- Completed Sprypoint Mobile Data Collection conversion and implementation;
- Assisted in the successful implementation of the Geographic Information System (GIS), along with complete collection of field inventory;
- Assisted in the successful implementation of the Outage Management System;
- Assisted in the implementation of Milsoft utility solutions software;
- Installed uninterruptible power supply units to all switch racks connected to server racks;
- Updated firewalls for complete failback redundancy;
- Finished re-cabling and re-build of entire RMLD network backbone;
- Assisted in redesign of RMLD's external website;
- Setup environment for real-time integration between the Invoice Cloud online bill payment system and the Cogsdale billing system, streamlining the billing and payment process by removing multiple, daily processes and steps;
- Installed VPN firewall to unify vendor remote access;
- Created and refined RMLD's backup and disaster recovery processes; and
- Revised and documented accounting and billing processes and procedures.

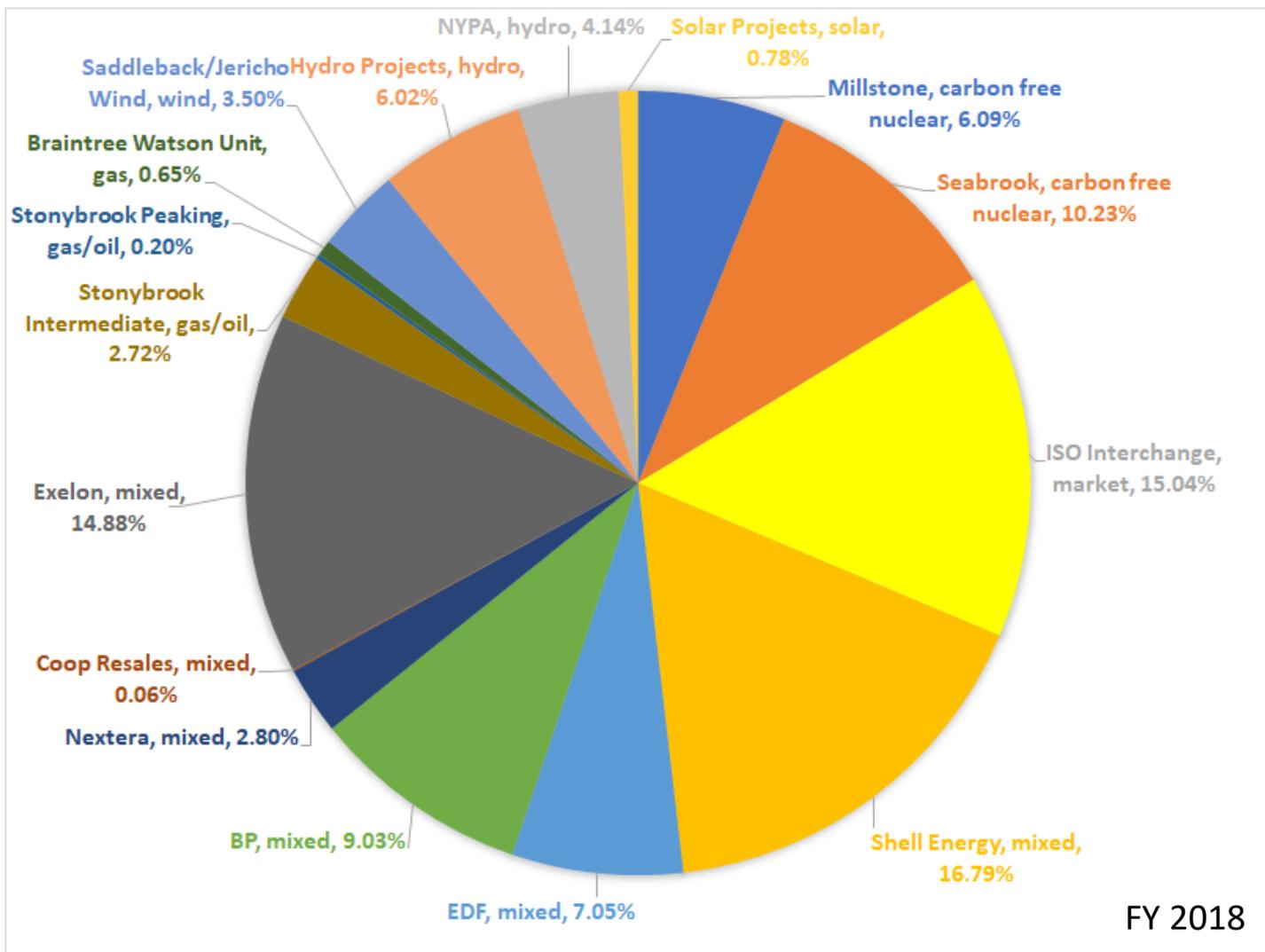
TALENT MANAGEMENT/HUMAN RESOURCES

- Continued Phase II of updating department job descriptions;
- Working with Organization Study consultant to complete the restructuring of Technical Services group through review/creation of job descriptions and Career Development Plans and recruitment;
- Working with RMLD software vendor and insurance vendor to continue automation of some HR functions;
- Continued review and updating of RMLD HR policies;
- Completed the restructuring of the Business/Finance group through new job descriptions and Career Development Plans;
- Completed DOT Drug/Alcohol Supervisor's training;
- Completed biannual CPR/Defibrillator training for office and management staff; and
- Hired 3 employees and processed out 7 retirees and 1 resignation.

POWER SUPPLY/RATES AND CUSTOMER SERVICE

- Awarded a \$1 million grant from the Commonwealth's Energy Storage Initiative (ESI) Advancing Commonwealth Energy Storage (ACES) program for the installation of an energy storage unit at the North Reading substation to support Shredding the Peak;
- Installed a public electric vehicle charging station in the parking lot of RMLD's main building. The station was partially funded by the Massachusetts Department of Environmental Protection's Electrical Vehicle Incentive Program (MasseVIP) Workplace Charging Grant, which provided approximately \$3,300 toward equipment costs;
- Launched a Pilot Plug-in Electric Vehicle (PEV) Rebate Program to promote the benefits of electric vehicles, provide incentives for PEV adoption, and collect data to help determine future PEV programs. Seven rebates were issued in the first month of the pilot;
- Held National Drive Electric Week Ride and Drive event to promote understanding of electric vehicles and awareness of RMLD's plug-in electric vehicle programs;
- Utilized 2.5 MW Distributed Generator located at Substation 3 during expensive peak hours, successfully offsetting energy costs by approximately \$155,000;
- Updated and filed new rates with Massachusetts DPU effective July 1, 2018 utilizing recommendations from Cost of Service Study to reduce subsidization across rate classes;
- Implemented Risk Management Strategy for power supply procurement utilizing price and time triggers;
- Continued power supply strategic plan with Nextera to stabilize wholesale power supply costs and mitigate risk;
- Continued Renewable Energy Credit (REC) sales;
- Attended ISO-NE's Participant Committee Meetings with State Regulators and ISO-NE Boardmembers;
- Processed 30 energy and lighting commercial rebate projects, 2 commercial solar rebates, 8 residential solar rebates, 980 residential Energy Star appliance rebates, 243 residential home energy assessments, and 12 electric vehicle charger rebates;
- Used \$403,390 energy conservation fund dollars, resulting in 1,210,364 kWh, 433.7 kW savings;
- Promoted residential Shred the Peak program by expanding to include monthly peaks and enrolling customers for email alerts (over 2,000 currently). An estimated 800 customers shred a cumulative 0.4 MW for an approximate annual savings of \$36,000;
- Continued growing and promoting Peak Demand Reduction (PDR) Program for our "500 Club" commercial, industrial, and municipal customers to effectively promote demand management and reward key accounts who achieve load shed during events. Fifteen customers are enrolled in the PDR Program with total load-shedding of about 4 MW for FY 2018, resulting in approximately \$34,000 in annual savings;
- Coordinated efforts to work with some of our largest customers, to site DG assets at their facilities;
- Achieved full subscription for RMLD's second completed Solar Choice community shared solar project located at 40/50 Fordham Road, Wilmington;
- Solar Choice 1, with a rating of 1 MW, produced 1,485,850 kWh. In its five months of operation during the fiscal year, Solar Choice 2, with a rating of 1.7 MW, produced 972,590 kWh. The output from these two Solar Choice Projects during peak demand hours saved a combined total of about \$30,000;
- Actively participated in Towns' economic development discussions;
- Continued promotion of RMLD online store and E-Tracker rebate automation program;
- Attended several technical seminars on Energy Storage applications for the Utility Industry; and
- Attended industry training on Interconnecting Distributed Generation.

RMLD Energy by Resources



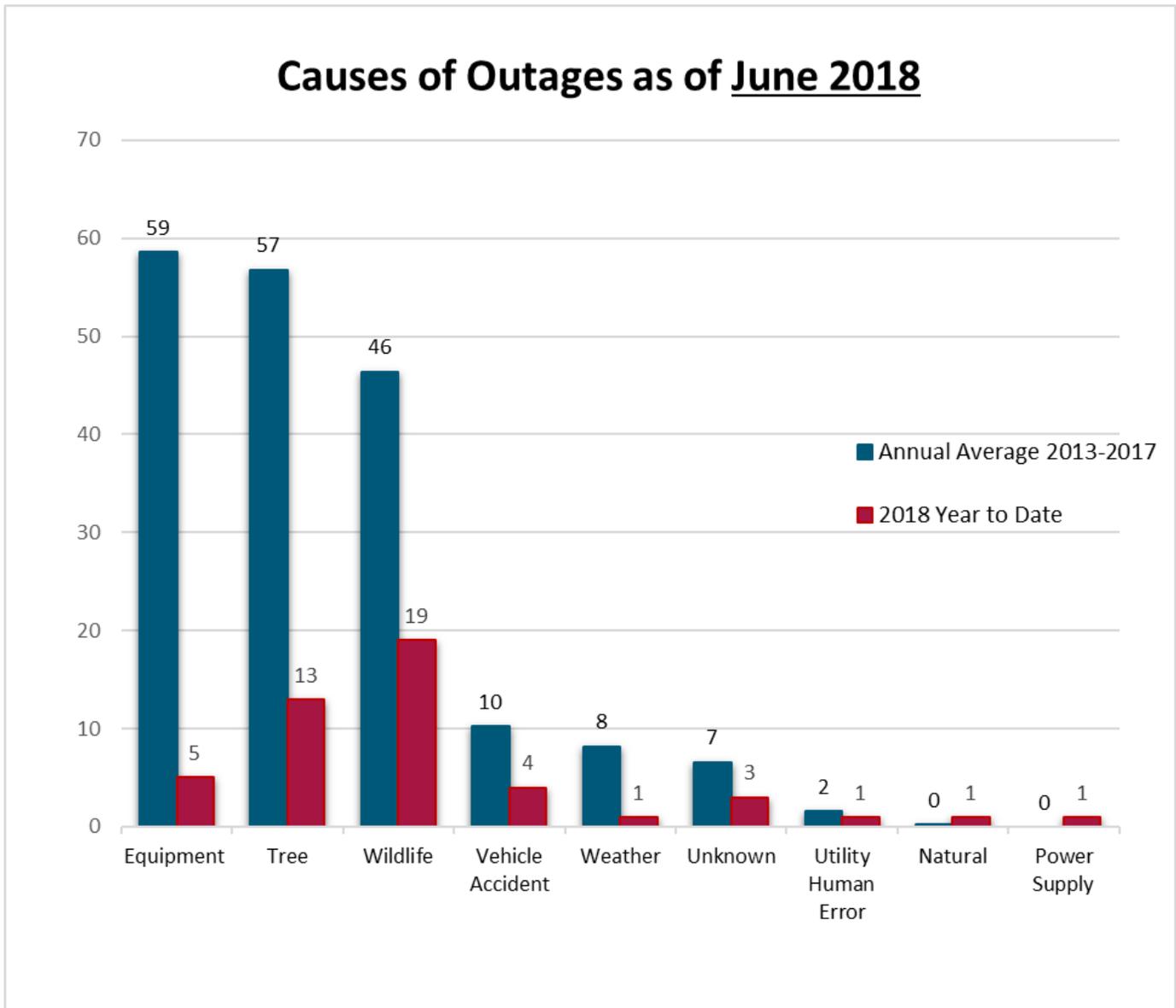
SYSTEM RELIABILITY

- Continued Implementation of Booth Associates Reliability Study Recommendations
- Continued Implementation of Long-Term Distribution Automation Roadmap
 - Completed comprehensive collection and integration of GIS data
 - Installed four Scada-Mate switches in Wilmington, bringing the total number of Scada-Mate switches system-wide to 12; installed IntelliRupter switches remain at two (system-wide)
 - Installed a recloser on Shawsheen Avenue in Wilmington
 - Installed Outage Management System (OMS)
 - Integrated OMS with Itron/Eaton Advanced Metering Infrastructure (AMI)
 - Continued expansion of mesh network and installation of AMI meters
- LED Street Light Upgrade Project
 - Replaced 2,338 street lights with LED fixtures in FY18; 7,716 total installed for three-year project
 - Replaced 118 flood lights with LED fixtures in FY18; 444 total for three-year project
- Substation Upgrades
 - Installed two sets of phase reactors at Substation 3 in North Reading in order to reduce the available short circuit fault current and incident energy
 - Continued update to configuration and maintenance for improved functionality and operation including correcting bus transfer scheme, replacing all relays, and SCADA programming at Substation 3
 - Replaced LTC control at Substation 5
 - Continued negotiations for land to build new substation in Wilmington to replace Substation 5
- Comprehensive On-Going System Maintenance Programs
 - Pole Inspection and Replacement Program – 3,291 poles have been inspected and 238 poles have been replaced since 2015
 - Manhole Inspections – 967 of 1,237 complete
 - Aged Transformer Replacement Program – 54 overhead and 12 pad-mount transformers were replaced in FY 2018
 - Porcelain Cutout Replacement Program – 91% complete
 - Tree Trimming and Vegetation Management Program:
 - 973 spans trimmed
 - The right-of-way entering Substation 4 was trimmed in preparation for the 211-504 (115 kV) transmission line rebuild to be completed in the fall of 2018
 - Annual inspection of 13.8kV/35kV Distribution Feeders – all circuits inspected in 2018
 - Secondary Main and Service Inspection/Upgrade Program – ongoing
 - Infrared Scan of Substations and Major Underground Facilities at Business Parks – ongoing
 - Substation Equipment Testing and Maintenance (i.e., relays, transformers, breakers, etc.) – testing completed on breakers, relays, and transformers at Substation 4 and 5
- Safety
 - Quarterly Electrical Safety Committee meetings
 - Safety inspection of job sites
 - NEPPA on-site safety training
 - Began planning for state-wide implementation of OSHA requirements
- Regulatory
 - Filed all NERC mandated compliance standards to ensure RMLD stays in compliance
 - Successfully completed NERC audit

- Performed ISO mandated 5% voltage reduction and simulated load shed testing and reported results
 - System Upgrades
 - Reading*
 - Approximately 2,500 circuit feet of primary underground cable was replaced for the 4W9 feeder getaway project
 - Approximately 550 circuit feet of 35kV underground cable was replaced for the 4P2 getaway repair project
 - Replaced five (5) transmission poles on the 211-503 115kV line feeding Substation 4
 - Replaced approximately 10 poles, 1,100 feet of primary cable and 1,200 feet of secondary cable on Federal Street
 - Tamarack Road area stepdown conversion
 - Wilmington*
 - Installed 4 (four) Scada-Mate switches
 - Replaced 1 (one) pad-mounted switchgear at Jonspin Road
 - Installed voltage regulator on Shawsheen Avenue
 - Installed recloser on Shawsheen Avenue
 - Completed pole upgrade and transfers on Woburn Street between the railroad tracks and Concord Street
 - North Reading*
 - Approximately 4,000 feet of underground primary cable was installed in the Crestwood Road area
 - Approximately 3,200 feet of underground primary cable and four (4) transformers were replaced in the Aspen Road/Colonial Hill Drive area
 - 4 kV Area Upgrade - Approximately 1,100 feet of primary cable, 1,250 feet of secondary cable, 1,800 feet of service wire and three (3) transformers were replaced at Putnam Street and Stewart Road
 - Approximately 4,600 feet of underground primary cable and five (5) transformers were replaced on Shasta Drive
 - Replaced three (3) pad-mounted switchgear: one (1) at Riverpark Drive, and two (2) at Concord Street
 - Installed capacitor banks on Lowell Street
 - Lynnfield*
 - Installed voltage regulators on Summer Street and Essex Street
 - Notable Service Additions or Upgrades
 - Reading:*
 - Barton Estates – new underground subdivision
 - Wilmington:*
 - Murray Hill Estates – Phase 2 – new underground subdivision
 - Green Meadow Drive – new underground subdivision
 - Monogram Foods – new/upgraded service
 - Spruce Farm Condominiums – new underground subdivision
 - Garden of Eden – new underground subdivision
 - North Reading:*
 - Deerfield Estate – new underground subdivision
 - Nichols Street Extension - new underground subdivision
 - Long Hill Lane - new underground subdivision
 - Lynnfield:*
 - Parsons Avenue – new underground subdivision

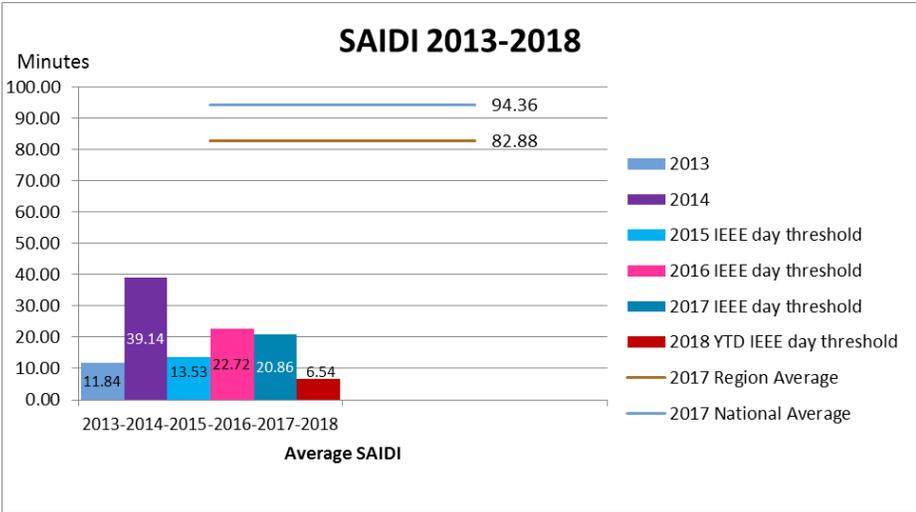
System Outages

Outage Causes Calendar YTD (from eReliability website)



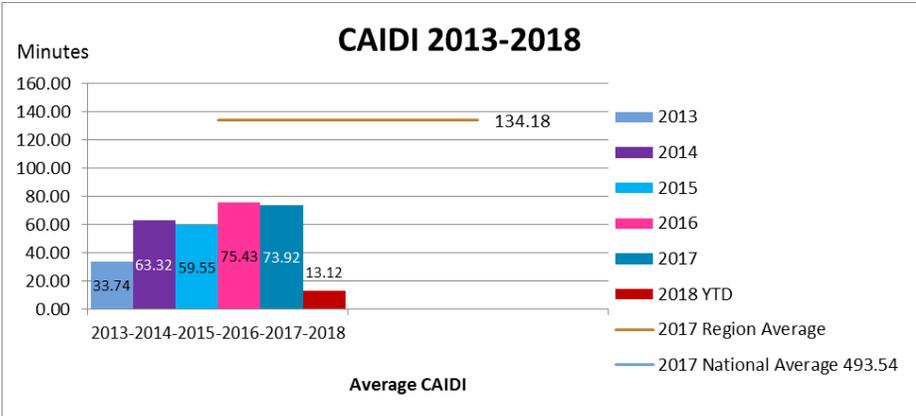
System Reliability Indices

Key industry standard metrics have been identified to enable the RMLD to measure and track system reliability.



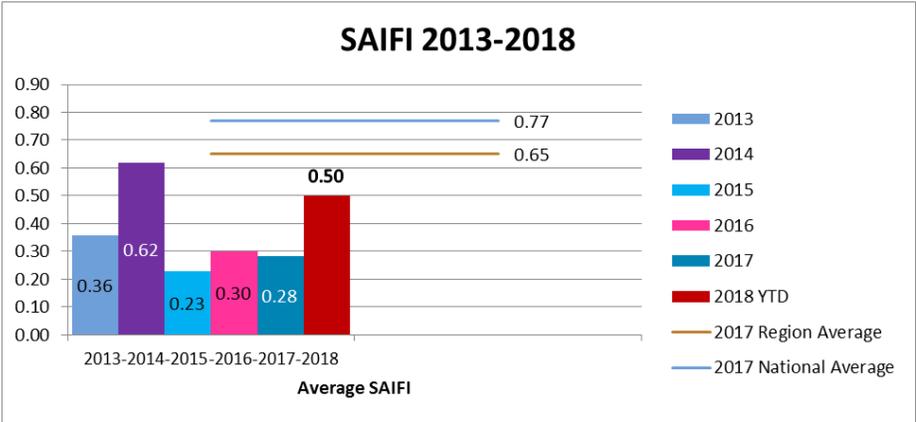
SAIDI (System Average Interruption Duration Index) is defined as the average interruption duration (in minutes) for customers served by the utility system during a specific time period.

SAIDI = the sum of all customer interruption durations within the specified timeframe ÷ average number of customers served during that period.



CAIDI (Customer Average Interruption Duration Index) is defined as the average duration (in minutes) of an interruption experienced by customers during a specific timeframe.

CAIDI = the sum of all customer interruption durations during that time period ÷ the number of customers that experienced one or more interruptions during that time period.



SAIFI (System Average Interruption Frequency) is defined as the average number of instances a customer on the utility system will experience an interruption during a specific time period.

SAIFI = the total number of customer interruptions ÷ average number of customers served during that period.

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

Annual Financial Statements

For the Year Ended June 30, 2018

Reading Municipal Light Department

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INDEPENDENT AUDITORS' REPORT

To the Municipal Light Board
Town of Reading Municipal Light Department

Additional Offices:

Nashua, NH
Manchester, NH
Greenfield, MA
Ellsworth, ME

Report on the Financial Statements

We have audited the accompanying financial statements of the business-type activities and the aggregate remaining fund information of the Town of Reading Municipal Light Department ("the Department") (an enterprise fund of the Town of Reading, Massachusetts), as of and for the year ended June 30, 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 June 30, 2018, and the respective changes in financial position and, where applicable, cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

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 40 to 43 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.

Melanson Heath

March 5, 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 year ended June 30, 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 June 30, 2018, it shows our net worth of \$107,498,041 which comprises \$78,275,207 invested in capital assets, \$4,003,292 and \$5,695,996 restricted for depreciation fund and the pension trust, and \$19,523,546 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 year ended June 30, 2018 was \$4,853,207.

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 fiscal year 2018.

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

Summary of Net Position

	<u>2018</u>
Current assets	\$ 24,857
Noncurrent assets	<u>110,941</u>
Total assets	135,798
Deferred outflows of resources	3,997
Current liabilities	9,556
Noncurrent liabilities	<u>20,635</u>
Total liabilities	30,191
Deferred inflows of resources	2,106
Net position:	
Net investment in capital assets	78,275
Restricted for depreciation fund	4,003
Restricted for pension trust	5,696
Unrestricted	<u>19,524</u>
Total net position	<u>107,498</u>
Total liabilities and net position	<u>\$ 137,689</u>

Summary of Change in Net Position

	<u>2018</u>
Operating revenues	\$ 97,206
Operating expenses	<u>(91,132)</u>
Operating income	6,074
Non-operating revenues (expenses)	<u>(1,221)</u>
Change in net position	4,853
Beginning net position, as restated	<u>102,645</u>
Ending net position	<u>\$ 107,498</u>

Electric sales (net of discounts) were \$96,747,035 in fiscal year 2018, an increase of 5.36% from the prior year. In fiscal year 2018, kilowatt hours sold decreased by 1.55% to 665,042,076, compared to 675,536,970 in fiscal year 2017. In fiscal year 2018, customers received charges of \$190,439 in purchase power fuel charge adjustments, compared to charges of \$724,692 in fiscal year 2017.

In fiscal year 2015, the Department restructured its rates and began billing customers purchase power capacity and transmission costs separately from the base rate. In fiscal year 2018, customers were charged purchase power capacity and transmission adjustments of \$269,269.

Operating expenses totaled \$91,132,369 in fiscal year 2018, an overall increase of 4.60% from fiscal year 2017. The largest portion of this total, \$69,506,184, was for purchase power costs. Other operating expenses included \$15,822,723 for general operating and maintenance costs, \$1,497,473 for voluntary payments to Towns, and depreciation expense of \$4,305,989. In fiscal year 2018, the depreciation rate was 3.0%.

In fiscal year 2018, the Department contributed \$1,650,416 to the Reading Municipal Light Department Employees' Retirement Trust ("Pension Trust") and the Pension Trust contributed \$1,650,416 to the Town of Reading Contributory Retirement System on behalf of the Department's employees.

In fiscal year 2018, the Department contributed \$607,125 to the Other Post-Employment Benefits Trust ("OPEB Trust"). Additional information on the Department's OPEB contributions can be found in Note 19 on pages 32 - 34 of this report.

C. CAPITAL ASSET AND DEBT ADMINISTRATION

Capital assets. Total investment in land at year end amounted to \$1,286,675; an increase of \$20,833 from the prior year. Total investment in depreciable capital assets at year-end amounted to \$76,988,531 (net of accumulated depreciation), an increase of \$2,143,437 from the prior year. This investment in depreciable capital assets

includes structures and improvements, equipment and furnishings, and infrastructure assets.

Debt and other long-term 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:

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

TOWN OF READING, MASSACHUSETTS
MUNICIPAL LIGHT DEPARTMENT
BUSINESS-TYPE PROPRIETARY FUND
STATEMENT OF NET POSITION
JUNE 30, 2018

ASSETS

Current:

Unrestricted cash and short-term investments	\$	12,411,639
Receivables, net of allowance for uncollectable		10,285,725
Prepaid expenses		727,717
Inventory		1,432,065
		24,857,146

Noncurrent:

Restricted cash and short-term investments		29,904,641
Restricted investments		2,502,561
Investment in associated companies		258,596
Land		1,286,675
Capital assets, net of accumulated depreciation		76,988,531
		110,941,004

DEFERRED OUTFLOWS OF RESOURCES

Related to pensions		3,348,332
Related to OPEB		648,615
		4,000,000

TOTAL ASSETS AND DEFERRED OUTFLOWS OF RESOURCES

139,795,097

LIABILITIES

Current:

Accounts payable		5,331,888
Accrued liabilities		420,427
Customer deposits		1,155,870
Customer advances for construction		2,149,463
Current portion of long-term liabilities:		
Compensated absences		498,719
		9,556,367

Noncurrent:

Net pension liability		10,781,819
Net OPEB liability		7,158,353
Compensated absences		2,694,957
		20,635,129

DEFERRED INFLOWS OF RESOURCES

Related to pensions		2,105,560
		2,105,560

TOTAL LIABILITIES AND DEFERRED INFLOWS OF RESOURCES

32,297,056

NET POSITION

Net investment in capital assets		78,275,207
Restricted for:		
Depreciation fund		4,003,292
Pension trust		5,695,996
Unrestricted		19,523,546
		107,498,041

TOTAL NET POSITION

\$ 107,498,041

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 YEAR ENDED JUNE 30, 2018

Operating Revenues:	
Electric sales, net of discounts of \$3,711,723	\$ 96,747,035
Purchase power adjustments:	
Fuel charge adjustment	190,439
Capacity and transmission adjustment	<u>269,269</u>
Total Operating Revenues	97,206,743
 Operating Expenses:	
Purchase power	69,506,184
Operating	13,228,683
Maintenance	2,594,040
Voluntary payments to towns	1,497,473
Depreciation	<u>4,305,989</u>
Total Operating Expenses	<u>91,132,369</u>
Operating Income	6,074,374
 Nonoperating Revenues (Expenses):	
Interest income	195,459
MMWEC surplus	32,412
Contributions in aid of construction	372,680
Return on investment to Town of Reading	(2,419,770)
Loss on disposal of capital assets	(63,845)
Other	<u>661,897</u>
Total Nonoperating Revenues (Expenses), Net	<u>(1,221,167)</u>
Change in Net Position	4,853,207
Net Position at Beginning of Year, as restated	<u>102,644,834</u>
Net Position at End of Year	<u><u>\$ 107,498,041</u></u>

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 YEAR ENDED JUNE 30, 2018

<u>Cash Flows From Operating Activities:</u>	
Receipts from customers and users	\$ 95,298,769
Payments to vendors and employees	(89,089,325)
Customer purchase power adjustments	459,708
	6,669,152
Net Cash Provided By (Used For) Operating Activities	6,669,152
<u>Cash Flows From Noncapital Financing Activities:</u>	
Return on investment to Town of Reading	(2,419,770)
MMWEC surplus	32,412
Other	641,359
	(1,745,999)
Net Cash Provided By (Used For) Noncapital Financing Activities	(1,745,999)
<u>Cash Flows From Capital and Related Financing Activities:</u>	
Acquisition and construction of capital assets	(6,513,566)
Intergovernmental revenues	1,594,841
	(4,918,725)
Net Cash Provided By (Used For) Capital and Related Financing Activities	(4,918,725)
<u>Cash Flows From Investing Activities:</u>	
Investment income	195,459
(Increase) decrease in investments	111,084
	306,543
Net Cash Provided By (Used For) Investing Activities	306,543
Net Change in Unrestricted Cash and Short-Term Investments	310,971
Cash and Short-Term Investments, Beginning of Year	42,005,309
Cash and Short-Term Investments, End of Year	\$ 42,316,280
<u>Reconciliation of Operating Income (Loss) to Net Cash:</u>	
Operating income	\$ 6,074,374
Adjustments to reconcile operating income to net cash provided by (used for) operating activities:	
Depreciation expense	4,305,989
Changes in assets, liabilities, and deferred outflows/inflows	
Accounts receivable	(1,523,880)
Prepaid and other assets	(47,016)
Inventory	216,610
Deferred outflows - related to pensions	786,746
Deferred outflows - related to OPEB	(339,869)
Accounts payable and accrued liabilities	(1,963,683)
Net pension liability	(2,294,719)
Net OPEB liability	(11,686)
Deferred inflows - related to pensions	1,390,672
Other	75,614
	6,669,152
Net Cash Provided By (Used For) Operating Activities	\$ 6,669,152

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

JUNE 30, 2018

	<u>Other Post Employment Benefits Trust Fund</u>
ASSETS	
Cash and short-term investments	\$ <u>3,519,792</u>
TOTAL ASSETS	<u>3,519,792</u>
NET POSITION	
Total net position held in trust for pensions and other purposes	\$ <u><u>3,519,792</u></u>

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 YEAR ENDED JUNE 30, 2018

	<u>Other Post Employment Benefits Trust Fund</u>
Additions:	
Contributions:	
Employers	\$ <u>1,129,116</u>
Total Contributions	1,129,116
Investment Income:	
Increase in fair value of investments	<u>55,517</u>
Net investment income	<u>55,517</u>
Total additions	1,184,633
Deductions:	
Benefit payments to plan members, beneficiaries and other systems	<u>521,991</u>
Total deductions	<u>521,991</u>
Net increase	662,642
Net position restricted for pensions and other purposes:	
Beginning of Year	<u>2,857,150</u>
End of Year	<u><u>\$ 3,519,792</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 June 30, 2018 are classified in the accompanying financial statements as follows:

Proprietary Fund:	
Unrestricted cash and short-term investments	\$ 12,411,639
Restricted cash and short-term investments	29,904,641
Restricted investments	2,502,561
Fiduciary Funds:	
Cash and short-term investments - OPEB Trust	<u>3,519,792</u>
Total cash and investments	<u>\$ 48,338,633</u>

Total cash and investments at June 30, 2018 consist of the following:

Deposits with financial institutions	<u>\$ 48,338,633</u>
Total cash and investments	<u>\$ 48,338,633</u>

Disclosures Relating to Interest Rate Risk

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

As of June 30, 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 June 30, 2018, the Department and Pension Trust held investments in domestic and foreign fixed income bonds with varying maturity dates as follows:

	Proprietary Fund	
	<u>Restricted</u>	Maturity
<u>Corporate bonds</u>	<u>Investments</u>	<u>Date</u>
AT&T Inc	\$ 418,601	12/01/22
General Electric Cap Corp	404,606	01/09/23
Wells Fargo & Co	402,020	08/15/23
Simon Property	372,899	06/15/27
Rabobank Nederland Bank	495,010	11/09/22
BNP Paribas	<u>409,425</u>	03/03/23
Total	<u>\$ 2,502,561</u>	

Disclosures Relating to Credit Risk

Generally, credit risk is the risk that the issuer of an investment will not fulfill its obligation to the holder of the investment. This is measured by the assigning of a rating by a nationally recognized statistical rating organization. As of June 30, 2018, the Department and Pension Trust held investments in domestic and foreign fixed income bonds with varying ratings as follows:

	Proprietary Fund	
	<u>Restricted</u>	Moody's
<u>Investment Type</u>	<u>Investments</u>	<u>Rating</u>
Corporate bonds:		
AT&T Inc	\$ 418,601	BAA2
General Electric Cap Corp	404,606	A2
Wells Fargo & Co	402,020	A3
Simon Property	372,899	A3
Rabobank Nederland Bank	495,010	BAA1
BNP Paribas	<u>409,425</u>	AA3
Total	<u>\$ 2,502,561</u>	

Concentration of Credit Risk

The Department follows the Town of Reading's investment policy, which does not limit the amount that can be invested in any one issuer beyond that stipulated by Massachusetts General Laws. At June 30, 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 June 30, 2018, cannot be reasonably determined.

As of June 30, 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.

<u>Description</u>	<u>Fair Value Measurements Using:</u>		
	<u>Quoted prices in active markets for identical assets (Level 1)</u>	<u>Significant observable inputs (Level 2)</u>	<u>Significant unobservable inputs (Level 3)</u>
Investments by fair value level:			
Debt securities			
Corporate bonds	\$ 2,502,561	\$ -	\$ -
Total	\$ <u>2,502,561</u>		

3. **Restricted Cash and Investments**

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

	<u>Cash</u>	<u>Investments</u>
Depreciation fund	\$ 4,012,622	\$ -
Deferred fuel reserve	6,032,006	-
Deferred energy conservation reserve	577,759	-
Rate stabilization	6,989,273	-
Reserve for uncollectible accounts	200,000	-
Sick leave benefits	1,942,396	1,251,281
Hazardous waste fund	750,000	-
Customer deposits	1,155,870	-
Pension trust	4,444,715	1,251,280
Total	\$ <u>29,904,641</u>	\$ <u>2,502,561</u>

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.
- 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 June 30, 2018:

Customer Accounts:		
Billed	\$	4,316,528
Less allowances:		
Uncollectible accounts		(200,000)
Sales discounts		<u>(231,940)</u>
Total billed		3,884,588
Unbilled, net		<u>5,710,527</u>
Total customer accounts		9,595,115
Other Accounts:		
Liens and other		<u>690,610</u>
Total other accounts		<u>690,610</u>
Total net receivables	\$	<u><u>10,285,725</u></u>

5. Prepaid Expenses

Prepaid expenses consist of the following:

Insurance and other	\$	284,072
Purchase power		(120,787)
NYPA prepayment fund		307,573
WC Fuel - Watson		<u>256,859</u>
Total	\$	<u><u>727,717</u></u>

6. Inventory

Inventory comprises supplies and materials at June 30, 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 June 30, 2018:

New England Hydro-Transmission (NEH & NHH) \$ 258,596

8. Capital Assets

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

	Beginning Balance	Increases	Decreases	Ending Balance
Business-Type Activities:				
Capital assets, being depreciated:				
Structures and improvements	\$ 19,414	\$ 856	\$ -	\$ 20,270
Equipment and furnishings	33,592	1,364	(222)	34,734
Infrastructure	90,527	4,273	(1,006)	93,794
Total capital assets, being depreciated	143,533	6,493	(1,228)	148,798
Less accumulated depreciation for:				
Structures and improvements	(9,414)	(540)	-	(9,954)
Equipment and furnishings	(21,520)	(1,009)	222	(22,307)
Infrastructure	(37,754)	(2,757)	962	(39,549)
Total accumulated depreciation	(68,688)	(4,306)	1,184	(71,810)
Total capital assets, being depreciated, net	74,845	2,187	(44)	76,988
Capital assets, not being depreciated:				
Land	1,266	21	-	1,287
Total capital assets, not being depreciated	1,266	21	-	1,287
Capital assets, net	\$ 76,111	\$ 2,208	\$ (44)	\$ 78,275

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 June 30, 2018.

11. Accrued Liabilities

Accrued liabilities consist of the following at June 30, 2018:

Accrued payroll	\$ 164,776
Accrued sales tax	248,952
Other	<u>6,699</u>
Total	<u>\$ 420,427</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 year ended June 30, 2018, the following changes occurred in long-term obligations (in thousands):

	Total Balance 7/1/17	Additions	Reductions	Total Balance 6/30/18	Less Current Portion	Equals Long-Term Portion 6/30/18
<u>Business-Type Activities</u>						
Net pension liability	\$ 13,076	\$ -	\$ (2,294)	\$ 10,782	\$ -	\$ 10,782
Net OPEB liability	138	7,020	-	7,158	-	7,158
Other:						
Compensated absences	<u>3,150</u>	<u>44</u>	<u>-</u>	<u>3,194</u>	<u>(499)</u>	<u>2,695</u>
Subtotal - other	<u>3,150</u>	<u>44</u>	<u>-</u>	<u>3,194</u>	<u>(499)</u>	<u>2,695</u>
Totals	<u>\$ 16,364</u>	<u>\$ 7,064</u>	<u>\$ (2,294)</u>	<u>\$ 21,134</u>	<u>\$ (499)</u>	<u>\$ 20,635</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 year ended June 30, 2018 was \$1,650,416 which was equal to its annual required contribution.

B. Summary of Significant Accounting Policies

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

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

At June 30, 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 year ended June 30, 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:

	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>
Net 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	<u>161,284</u>	<u>-</u>
Total	<u>\$ 3,348,332</u>	<u>\$ 2,105,560</u>

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

Year ended June 30:

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,

2017 using the following actuarial assumptions, applied to all periods included in the measurement:

Valuation Date	January 1, 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 and 4.75%-7.00% for Group 4
Inflation rate	3.00% Annually
Post-retirement cost-of-living adjustment	3.00% of first \$12,000

Mortality rates were based on the RP-2014 Mortality Table with 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:

<u>1% Decrease (6.65%)</u>	<u>Current Discount Rate (7.65%)</u>	<u>1% Increase (8.65%)</u>
\$ 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 June 30, 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 June 30, 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 and Group 2 7.0% decreasing to 4.75% based on service for Group 4 7.5% decreasing to 4.00% based on service for Teachers
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 June 30, 2017, were as follows:

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

E. Changes in the Net OPEB Liability

	<u>Increase (Decrease)</u>		
	Total OPEB Liability <u>(a)</u>	Plan Fiduciary Net Position <u>(b)</u>	Net OPEB Liability <u>(a) - (b)</u>
Balances at 6/30/16	\$ 9,556,217	\$ 2,525,842	\$ 7,030,375
Changes for the year:			
Service cost	245,842	-	245,842
Interest	698,939	-	698,939
Contributions - employer	-	794,319	(794,319)
Net investment income	-	22,484	(22,484)
Benefit payments	<u>(485,573)</u>	<u>(485,573)</u>	<u>-</u>
Net Changes	<u>459,208</u>	<u>331,230</u>	<u>127,978</u>
Balances at 6/30/17	<u>\$ 10,015,425</u>	<u>\$ 2,857,072</u>	<u>\$ 7,158,353</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% Decrease</u>	<u>Current Discount Rate</u>	<u>1% Increase</u>
\$ 8,129,189	\$ 7,158,353	\$ 6,350,695

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% Decrease</u>	<u>Current Healthcare Cost Trend Rates</u>	<u>1% Increase</u>
\$ 6,277,032	\$ 7,158,353	\$ 8,113,465

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

For the year ended June 30, 2018, the Department recognized an OPEB expense of \$896,790. At June 30, 2018, the Department reported deferred outflows of resources related to OPEB from the following sources:

	<u>Deferred Outflows of Resources</u>
Contributions subsequent to the measurement date	\$ 607,125
Net difference between projected and actual OPEB investment earnings	<u>41,490</u>
Total	<u>\$ 648,615</u>

The \$648,615 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 June 30, 2019.

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

<u>Year Ended June 30:</u>	
2019	\$ 10,373
2020	10,373
2021	10,373
2022	<u>10,371</u>
Total	\$ <u>41,490</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 June 30, 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 June 30, 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% decrease to 4.25% based on service
Investment rate of return	7.50%, net of OPEB plan investment expense
Discount rate	7.50%
Healthcare cost trend rates	7.0% for 2018, fluctuating 0.5%, to an ultimate rate of 4.5% as of 2023 and later years

Mortality rates were based on RP-2014 Healthy Employee Mortality Table projected generationally with Scale MP-2014 for pre-retirement. RP-2014 Healthy Annuitant Mortality Table projected generationally with Scale MP-2014 for healthy and RP-2014 Disabled Retiree Table projected generationally with Scale MP-2014 for disabled individuals.

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, 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	<u>12.00%</u>	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 June 30, 2018, were as follows:

Total OPEB liability	\$ 10,477,535
Plan fiduciary net position	<u>3,519,714</u>
Net OPEB liability	<u><u>\$ 6,957,821</u></u>

Plan fiduciary net position as a percentage of the total OPEB liability	33.59%
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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:

<u>1% Decrease</u>	<u>Current Discount Rate</u>	<u>1% Increase</u>
\$ 8,156,713	\$ 6,957,821	\$ 5,952,284

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:

<u>1% Decrease</u>	<u>Current Healthcare Cost Trend Rates</u>	<u>1% Increase</u>
\$ 5,794,302	\$ 6,957,821	\$ 8,202,679

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.

After the July 1, 2018 principal payment, total capital expenditures amounted to \$1,499,468,000, of which \$127,174,000 represents the amount associated with the Department's Project Capability. MMWEC's debt outstanding for the Projects from Power Supply System Revenue Bonds totals \$10,680,000, of which \$182,000 is associated with the Department's share of Project Capability. After the July 1, 2018 principal payment, MMWEC's total future debt service requirement on outstanding bonds issued for the Projects is \$7,959,000, 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 \$8,578,000 and \$9,548,000 for the years ended June 30, 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 fiscal year 2018 REC activity and balances is as follows:

REC Sales During Fiscal 2018

	<u>Certificates</u>	<u>Unit Price</u>	<u>Amount</u>
CT Class I	6,756	\$ 12.75	\$ 86,139
CT Class I	1,875	\$ 2.00	3,750
MA Class I	1,939	\$ 12.75	24,722
MA Class I	4,503	\$ 2.00	9,006
MA Class II	4,085	\$ 25.00	102,125
MA Class II	616	\$ 25.00	15,400
NH/MA/CT/RI Class I	8,286	\$ 12.75	105,647
NH/MA/CT/RI Class I	6,655	\$ 2.00	13,310
NH/MA/RI Class I	<u>3,973</u>	\$ 12.75	<u>50,656</u>
Total	<u>38,688</u>		<u>\$ 410,755</u> ⁽¹⁾

(1) Sale proceeds netted against fiscal year 2018 purchased power fuel charge

REC Holdings at June 30, 2018

	<u>Banked Certificates</u>	<u>Projected Certificates</u>	<u>Total Certificates</u>	<u>Estimated Value</u>
CT Class I	6,888	8,631	15,519	\$ 106,764
MA Class I & II	6,837	6,995	13,832	153,626
MA/RI/NH 1	5,279	14,942	20,221	79,185
MA/CT/RI/NH 1	<u>10,507</u>	<u>8,121</u>	<u>18,628</u>	<u>162,859</u>
Total	<u>29,511</u>	<u>38,689</u>	<u>68,200</u>	<u>\$ 502,434</u>

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

Because there is no formal accounting guidance under GAAP or IFRS for RECs and the Department does not have a formal policy for the future disposition of RECs, the estimated fair value of the Department's REC holdings at June 30, 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, 2018. Following is the future minimum rental income to be received by the Department under the terms of this lease for the year ending June 30:

2019	\$ <u>4,084</u>
Total	\$ <u><u>4,084</u></u>

Operating Lease - Warehouse

The Department is the lessee of a warehouse facility owned by JCM Real Estate Trust. The original lease agreement for this facility commenced in December 1998 and was extended by various amendments through May 31, 2016. Under the terms of the most recent lease amendment, the Department has exercised the option to extend the lease for an additional 24 months until May 31, 2020. Following is the future minimum rental expense to be paid by the Department for the year ending June 30:

2019	\$ <u>147,902</u>
Total	\$ <u><u>147,902</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. Beginning Net Position Restatement and Reclassification

In fiscal year 2018, the Department implemented GASB Statement No. 75, Accounting and Financial Reporting for Postemployment Benefits other than Pensions. As a result of the implementation, the beginning (July 1, 2017) net position of the Department's proprietary fund has been restated as follows:

	<u>Business-Type Activities</u> Proprietary <u>Fund</u>
As previously reported	\$ 109,368,059
Implementation of GASB 75 OPEB	<u>(6,723,225)</u>
As restated	<u>\$ 102,644,834</u>

TOWN OF READING, MASSACHUSETTS, MUNICIPAL LIGHT DEPARTMENT

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

JUNE 30, 2018
(Unaudited)

Reading Contributory Retirement System						
<u>Fiscal Year</u>	<u>Measurement Date</u>	<u>Proportion of the Net Pension Liability</u>	<u>Proportionate Share of the Net Pension Liability</u>	<u>Covered Payroll</u>	<u>Proportionate Share of the Net Pension Liability as a Percentage of Covered Payroll</u>	<u>Plan Fiduciary Net Position Percentage of the Total Pension Liability</u>
June 30, 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.

TOWN OF READING, MASSACHUSETTS, MUNICIPAL LIGHT DEPARTMENT

SCHEDULE OF PENSION CONTRIBUTIONS (GASB 68)

JUNE 30, 2018
(Unaudited)

Reading Contributory Retirement System					
<u>Fiscal Year</u>	<u>Contractually Required Contribution</u>	Contributions in Relation to the <u>Contractually Required Contribution</u>	<u>Contribution Deficiency (Excess)</u>	<u>Covered Payroll</u>	<u>Contributions as a Percentage of Covered Payroll</u>
June 30, 2018	\$ 1,650,416	\$ 1,650,416	\$ -	\$ 6,938,057	23.79%
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%

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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>
Total OPEB liability		
Service cost	\$ 234,573	\$ 245,842
Interest on unfunded liability - time value of \$	749,528	698,939
Benefit payments, including refunds of member contributions	<u>(521,991)</u>	<u>(485,573)</u>
Net change in total OPEB liability	462,110	459,208
Total OPEB liability - beginning	<u>10,015,425</u>	<u>9,556,217</u>
Total OPEB liability - ending (a)	10,477,535	10,015,425
 Plan fiduciary net position		
Contributions - employer	1,129,116	794,319
Net investment income	55,517	22,484
Benefit payments, including refunds of member contributions	<u>(521,991)</u>	<u>(485,573)</u>
Net change in plan fiduciary net position	662,642	331,230
Plan fiduciary net position - beginning	<u>2,857,072</u>	<u>2,525,842</u>
Plan fiduciary net position - ending (b)*	<u>3,519,714</u>	<u>2,857,072</u>
Net OPEB liability (asset) - ending (a-b)	<u>\$ 6,957,821</u>	<u>\$ 7,158,353</u>

*Materially agrees with Statement of Fiduciary Net Position

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

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

See Independent Auditors' Report.

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

Schedules of Net OPEB Liability, Contributions, and Investment Returns (GASB 74 and 75)

(Unaudited)

Schedule of Net OPEB Liability

	<u>2018</u>	<u>2017</u>
Total OPEB liability	\$ 10,477,535	\$ 10,015,425
Plan fiduciary net position	<u>3,519,714</u>	<u>2,857,072</u>
Net OPEB liability (asset)	<u>\$ 6,957,821</u>	<u>\$ 7,158,353</u>
Plan fiduciary net position as a percentage of the total OPEB liability	33.6%	28.5%

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>1,129,116</u>	<u>794,319</u>
Contribution deficiency (excess)	<u>\$ (138,068)</u>	<u>\$ 138,068</u>

Schedule of Investment Returns

	<u>2018</u>	<u>2017</u>
Annual money weighted rate of return, net of investment expense	unavailable	unavailable

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

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

See Independent Auditors' Report.

