#### Town of Reading Meeting Posting with Agenda

#### **Board - Committee - Commission - Council:**

RMLD		
Date: 2021-03-18		Time: 6:00 PM
Building:		Location:
Address:		Agenda:
Purpose:	General Business	

Meeting Called By: Jason Small, Chair

Notices and agendas are to be posted 48 hours in advance of the meetings excluding Saturdays, Sundays and Legal Holidays. Please keep in mind the Town Clerk's hours of operation and make necessary arrangements to be sure your posting is made in an adequate amount of time. A listing of topics that the chair reasonably anticipates will be discussed at the meeting must be on the agenda.

#### All Meeting Postings must be submitted in typed format; handwritten notices will not be accepted.

#### **Topics of Discussion:**

PER GOVERNOR BAKER'S MARCH 10, 2020, ORDER SUSPENDING CERTAIN PROVISIONS OF THE OPEN MEETING LAW, G.L. c. 30A, §20, THIS MEETING WILL BE HELD REMOTELY UTILIZING WEB TECHNOLOGY.

FOR PUBLIC PARTICIPATION PLEASE EMAIL: krybak@rmld.com. INCLUDE YOUR FULL NAME, ADDRESS, AND PHONE #

- 1. Call Meeting to Order J. Small, Chair
- 2. General Manager's Report C. O'Brien, General Manager
  - Community Update
  - Electric Vehicle Grant Update
  - 2020 Financial Update/Town Meeting Presentation
- 3. Power Supply and GGES Update C. Underhill, Director of Integrated Resources and G. Phipps, Assistant Director of Integrated Resources
- 4. Engineering & Operations Report: Solar/Battery System Impact Study H. Jaffari, Director of Engineering & Operations
- 5. Financial Report: December Financials (Unaudited Draft) W. Markiewicz, Director of Business and Finance
- 6. Scheduling J. Small, Chair
  - Next CAB Meeting
    - BOC Meeting Coverage for April Meeting
- Adjournment J. Small, Chair <u>Suggested Motion</u>: Move that the Citizens' Advisory Board adjourn regular session.

### ATTACHMENT 1

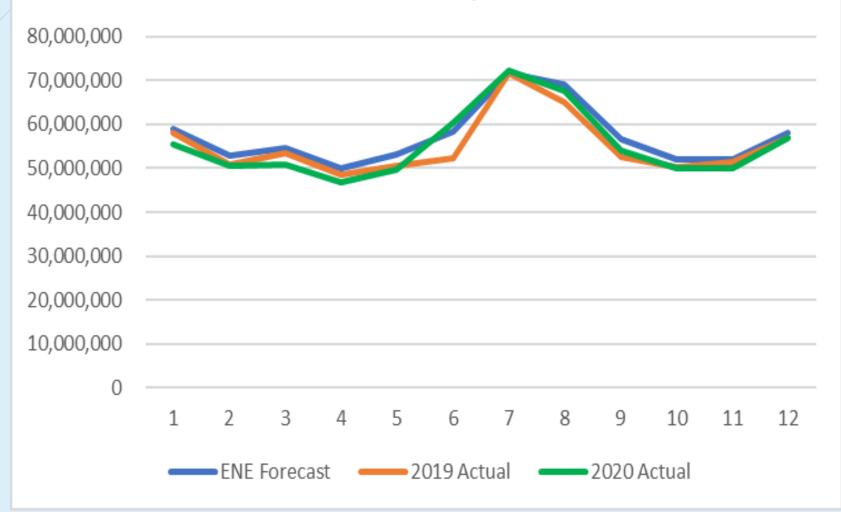
Agenda Item 3: Power Supply and GGES Update

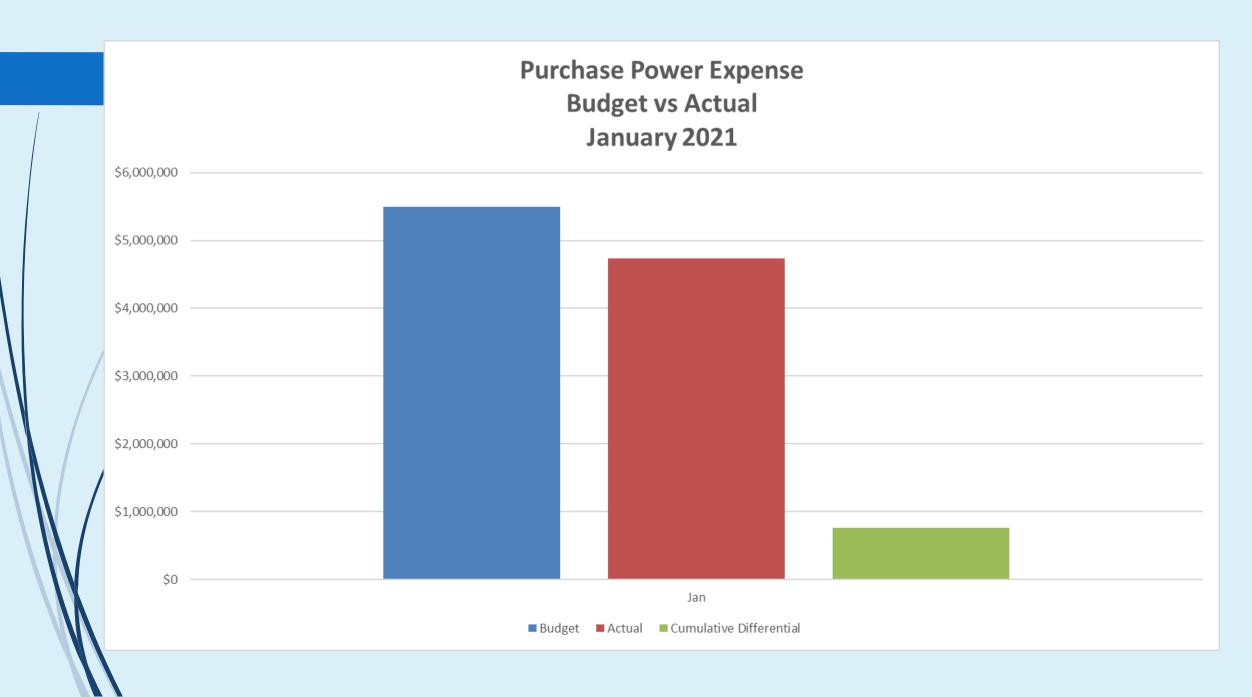
# Power Supply Report

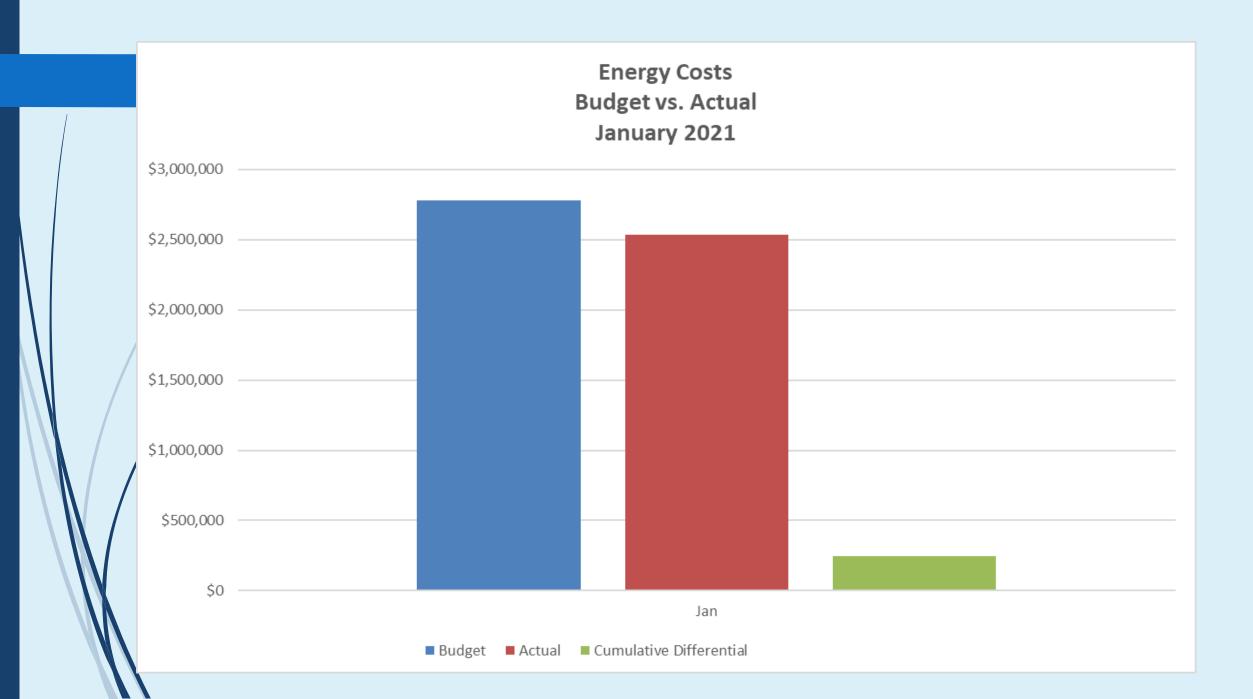
Prepared for Board of Commissioners Citizens' Advisory Board March 18, 2021 Charles Underhill, Director of Integrated Resources

Reporting for January 2021.

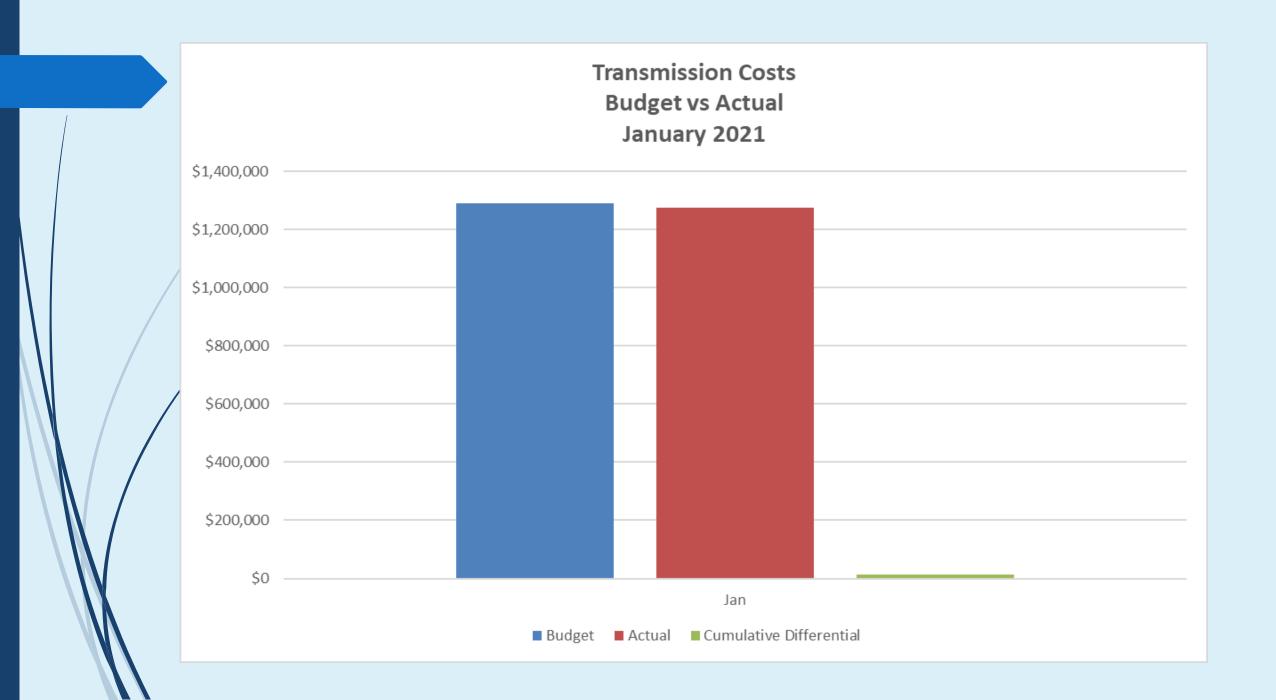
## 2020 RMLD Total System Loads

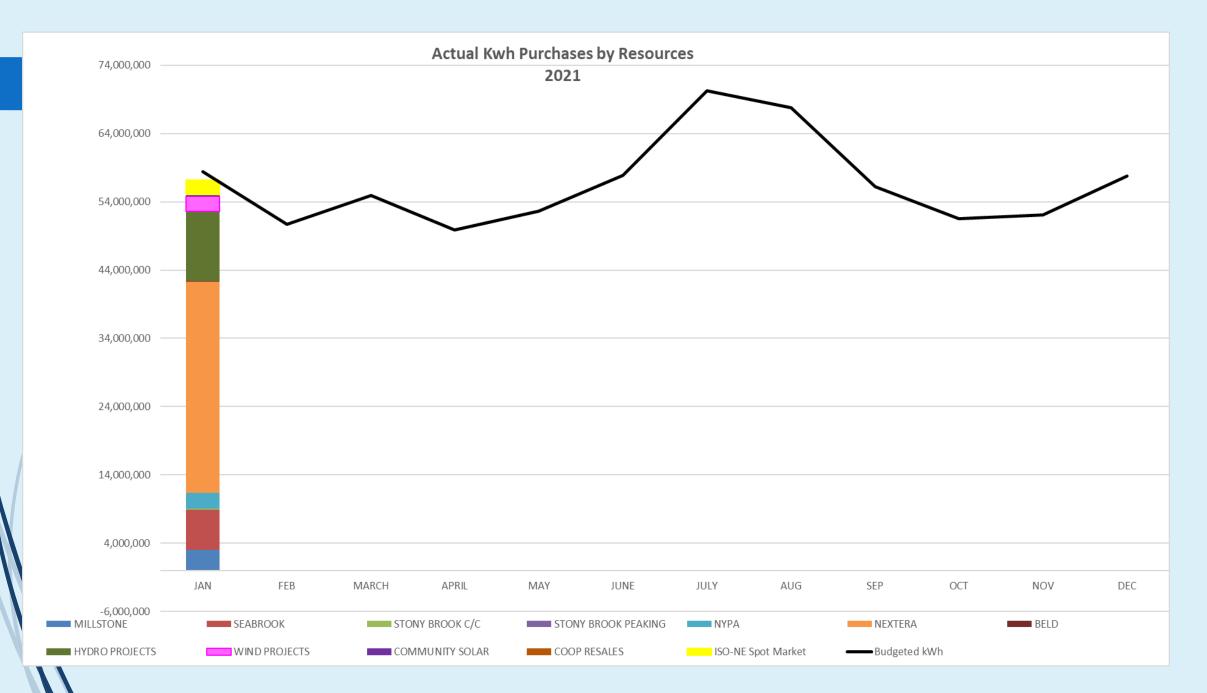












# Greenhouse Gas Emissions Standard (GGES) Policy 30 Update

## **BOC / CAB Discussion**

18 March 2021

# Outline

## Legislation status

## RMLD Certificate Management Plan

Power Portfolio Addition – Hydro

## Legislation Update

Climate Bill (Roadmap 2050, GGES) approved by Senate (39-1) on March 15, 2021

No significant change to energy portion over several cycles

House expected to approve shortly, then sent back to Governor

If Governor rejects, there are enough votes in both Senate and House to override

Climate Bill Legislation (Roadmap 2050) expected to become law, soon

source: Mass Legislature web site; ENE commentary

# Certificate Management

Under Policy30, Rev 0, majority of certificates were sold

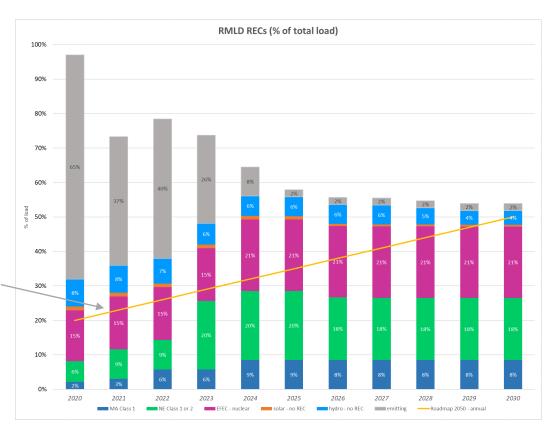
Policy 30, Rev 1, changes RMLD certificate management

Effective 2Q21, certificate retirements up to annualized line

Retiring least valuable first (example EFECs, NE Class I and II)

Balance sold (avoid expiration, buffer rate shock)

Monthly monitoring, quarterly reporting; annual filings



## Certificates – NEPOOL GIS



Generators issue certificates – 1 certificate / 1 MWH energy produced

Certificates minted (available for transactions) 6 months after energy produced (time shift)

2 month transaction window each quarter

Any remaining certificates forfeited on June 15<sup>th</sup> of following year (ex. June 15 2021, for 2020 certificates)

Manage certificate portfolio monthly with annual horizon (banking between quarters) – balancing compliance, value, shelf-life

5 source: NEPOOL GIS



# Power Supply Opportunity NE Hydro Generator

Refurbishment of an existing hydro asset in southern New England (limited opportunities)

Renewable and non-carbon

Volume - 25,000 MWh/yr (~3.8% RMLD total load)

Term - 25 year, starting summer 2021

Associated RECs - MA GGES from start and CT Class I (via FERC relicensing) scheduled 2026

• Options on RECs in years 15-25 (RMLD flexibility)

Pricing – at average of hydro portfolio and 80% higher than RMLD total portfolio average

## Thank You

### ATTACHMENT 2

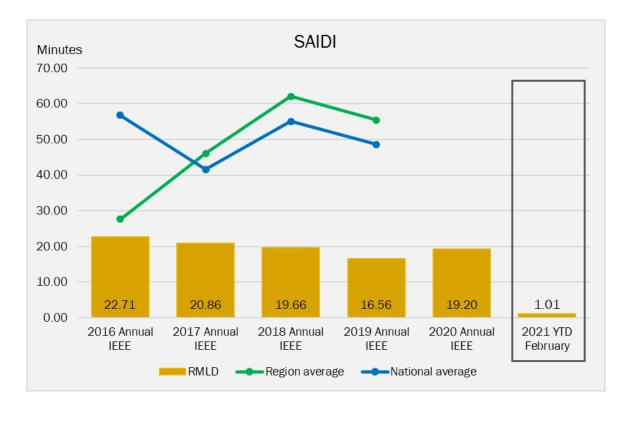
Agenda Item 4: Engineering & Operations Report: Solar/Battery System Impact Study

# **ENGINEERING & OPERATIONS REPORT**

RMLD Board of Commissioners RMLD Citizens' Advisory Board

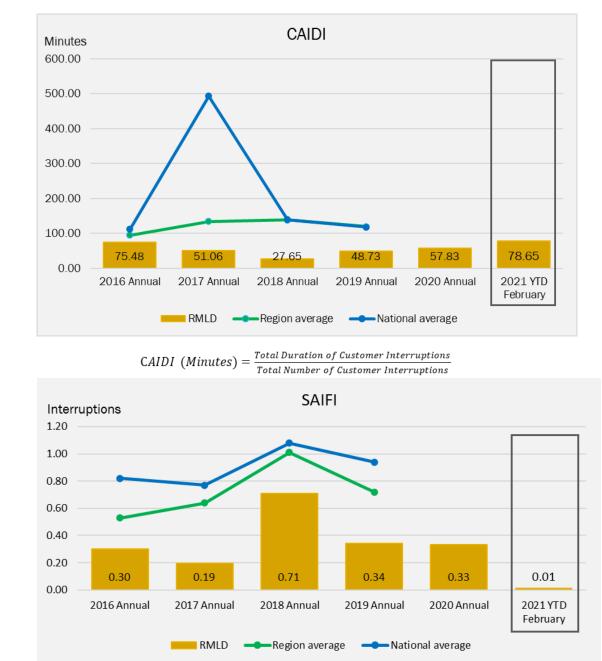
March 18, 2021

## **RMLD** Reliability Indices

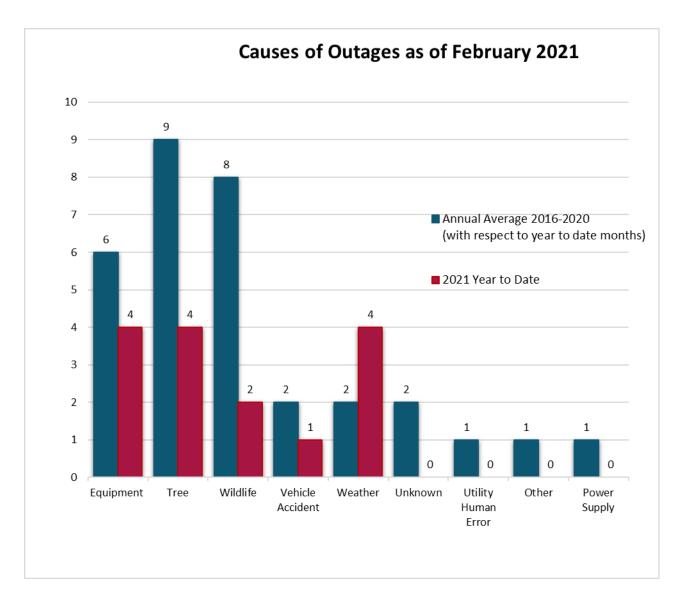


 $SAIDI (Minutes) = \frac{Total Duration of Customer Interruptions}{Total Number of Customers}$ Served

Note: APPA eReliability Tracker using IEEE beta threshold method for outages.



 $SAIFI = rac{Total Number of Customer Interruptions}{Total Number of Customers Served}$ 



Solar/Battery System Impact Study

> Distributed Energy Resources (DER)

GIS Map of Solar Installations

Solar/Battery System Impact Study - Goals & Deliverables

Study Concerns

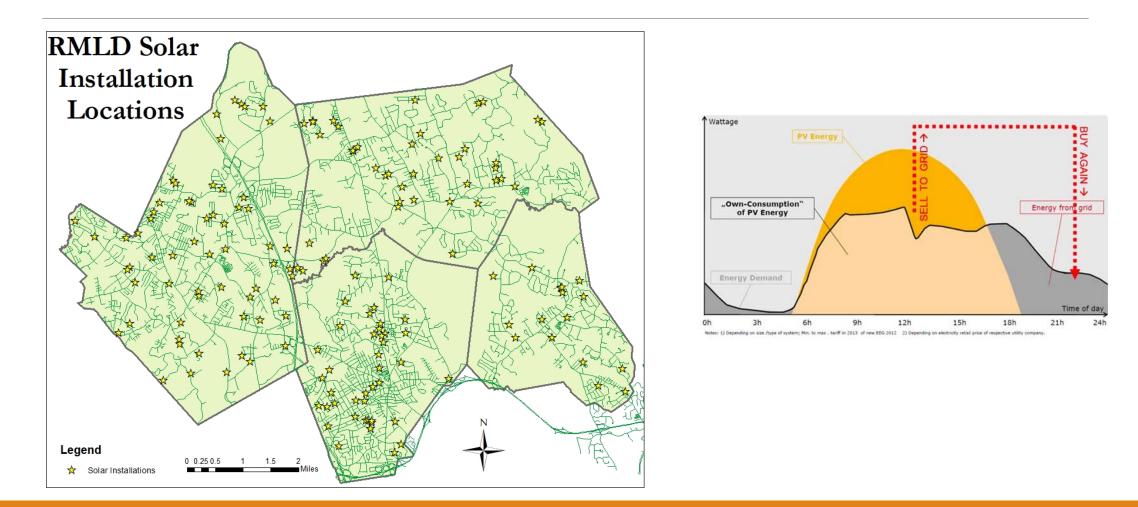
Study Results

**RMLD Remediation Plans** 



**RMLD Operating Process & Procedure** 

# **RMLD Solar Installations - GIS Map**



Solar/Battery System Impact Study

## Goals of Study:

- Determine the amount of DER power generation that could be interconnected and operated in parallel with RMLD's electric distribution system without causing any adverse system impacts to safety and reliability.
- Calculate the maximum hosting capacity at every distribution system point (node).
- Integrate this data into RMLD's GIS mapping system for quick evaluation surrounding feasibility of proposed DER interconnection requests.

## **Study Deliverables:**

- Written report
- Data file that contains capacity limits that tie to assets in RMLD's Geographic Information System (GIS)

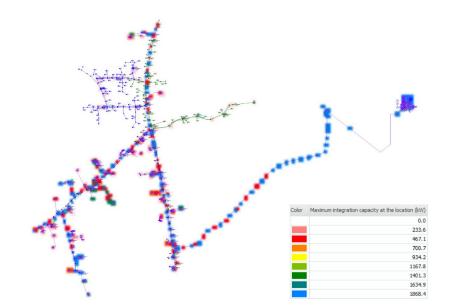
# Solar/Battery System Impact Study

## Factors examined in the study:

- Steady-state voltage conditions
- Conductor and equipment thermal loading
- Transient conditions (voltage flicker)
- Reverse power flow through equipment
- Increased maximum fault currents
- Protective device desensitization
- Protective device coordination
- Synchronism/out-of-sync reclosing

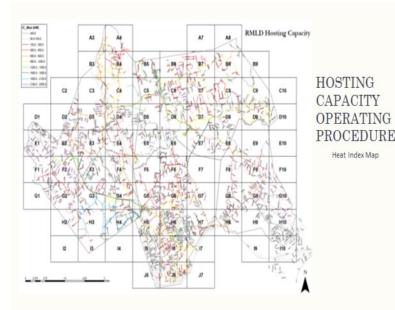
## **Concerns:**

- Over voltage during light load conditions
- Reverse power flow back to RMLD feeders
- Harmonics distortions
- Voltage transients or disturbances



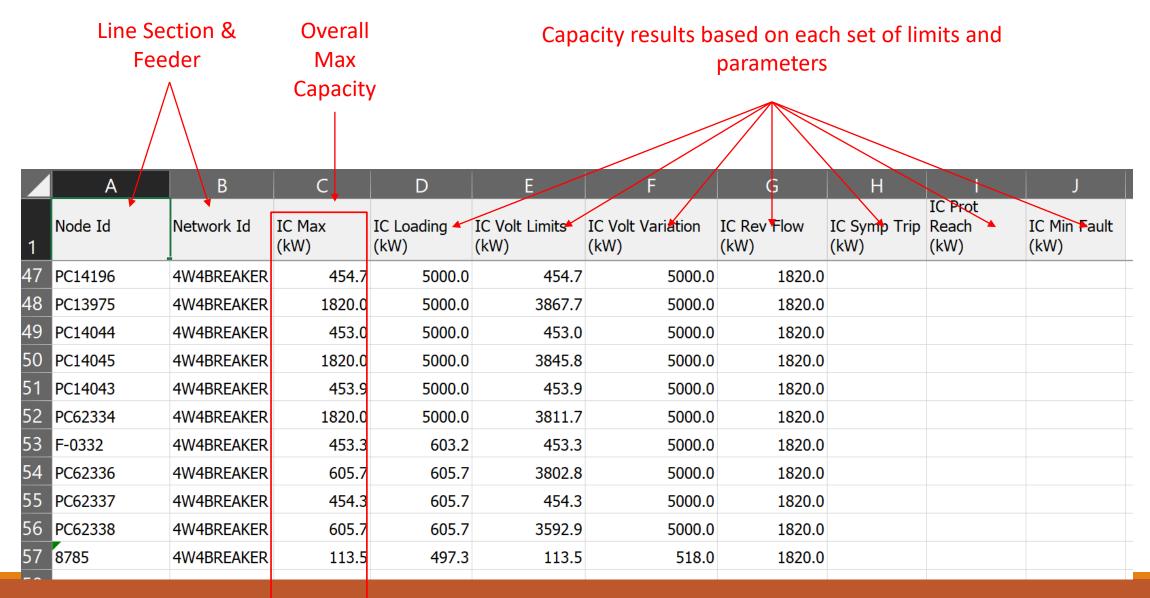


Indicates available capacity at every node on the system.



- Updated every six months.
  - Located on RMLD's E&O SharePoint.
- Engineering report will include the GIS map and updated Heat Index Map.

# Solar Capacity Results



# System Limitations

- Feeder capacity limitations are shared responsibilities between RMLD and Customers.
- Customers shall include with their design and installation <u>Smart Inverters</u> that can control reverse power flow and regulate voltage.
- RMLD will make every effort to accommodate DER system interconnection without compromising the reliability and overall system protection.

## What if a feeder has reached its capacity limit?

RMLD circuits cannot accept reverse flow of power.

## **Customer Options:**

- **Install batteries** to store the energy during the day and use it at night; and/or
- Participate in RMLD's <u>Peak Shaving</u> and/or future SCADA-automated <u>Demand Response</u> (DR) programs. As technology advances, <u>Smart Inverters</u> will be able to communicate with utility SCADA system for economic dispatch during system peaks when there are capacity deficiencies.

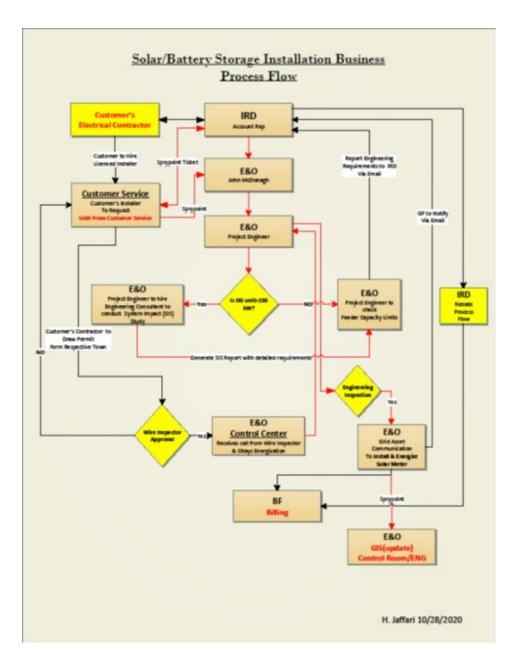


# **Business Process**

Customers apply for a UAN through Customer Service.



- Customer Service will issue a UAN and will pass that request to IRD, E&O Operational Assistant, and Assistant Director of E&O.
- Assistant Director of E&O will assign an engineer to perform engineering analysis and evaluation.
- DER interconnects over <u>150 KW</u> require full system impact study.
- Review of system limitations and restrictions.
- E&O report goes to IRD and Customer Service to contact the customer on how to proceed with installation.
- Wire inspector will inspect the system once installed and will call RMLD to approve the installation.
- RMLD will install and energize the meter and update the GIS.



RMLD's DER Capacity Evaluation & Business Process Flow

# Important Points to Remember...

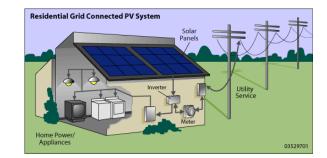
#### **Customer Responsibility:**

S Customers should contact RMLD to find out about any system capacity limitations before making any economic investments.

#### **RMLD's Responsibility:**

- **S** Utilizing System Capacity: RMLD is taking all possible measures (i.e., system upgrades and improvements, automation, installing smart grid devices to monitor power quality, etc.) to maximize circuit capacity wherever possible to allow reverse flow of power from customers' DGs.
- S Maintaining System Reliability: In the interest of maintaining system reliability and protection against possible RMLD asset thermal overloads, power quality issues, and electrical equipment damage caused by customer DG back flow, RMLD may limit the cumulative generation of solar/BESS in its service territory.
- **S** Updating DG Capacity Limitations: RMLD is monitoring and updating every circuit and its overall system capacity limitations semiannually.







## Customer Service Manual Handbook

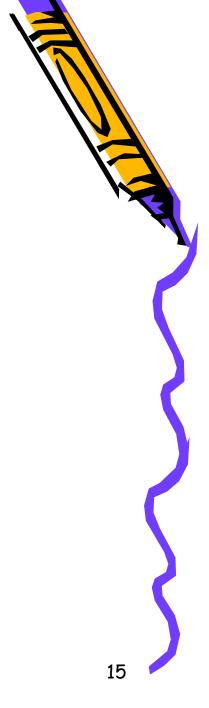
- Customers are encouraged to refer to RMLD's Service Requirements Handbook on www.RMLD.com for more information under section 13 titled "Customer Owned Generation Requirements", page 44 for more information.
- RMLD continues to revise these requirements as smart inverters and demand response automation technologies change.







# Question?



### **ATTACHMENT 3**

Agenda Item 5: Financial Report: December Financials (Unaudited Draft)

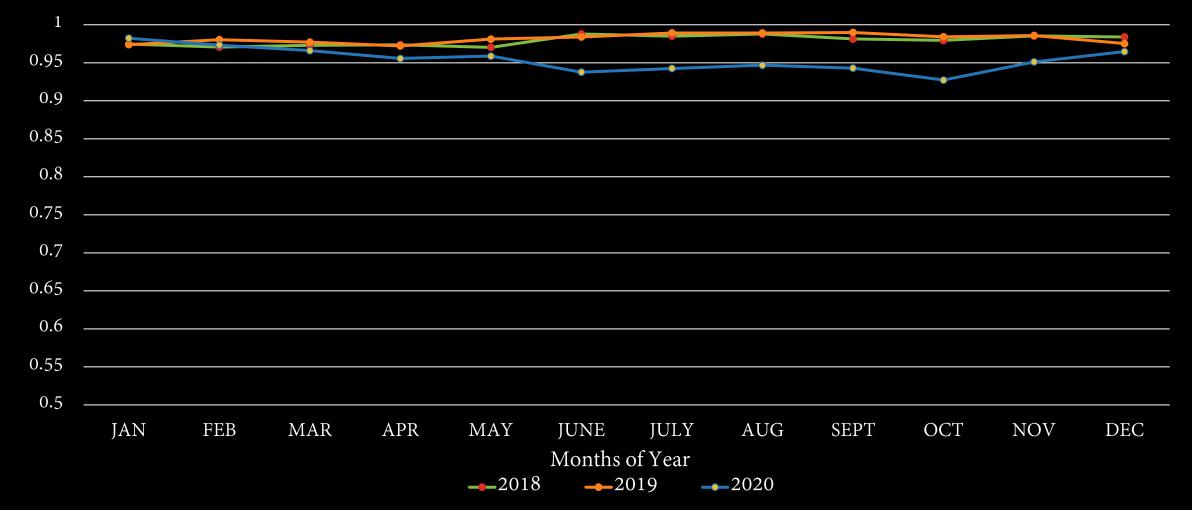
# The Reading Municipal Light Department

# FINANCIAL REVIEW

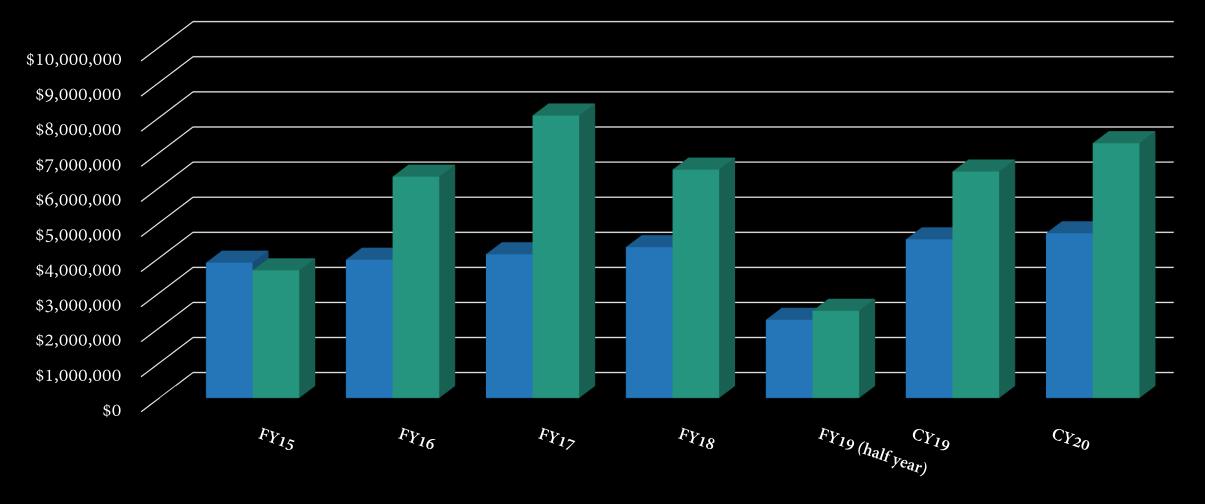
ending

December 31, 2020

Accounts Receivable Aging by Months 90 Days Current January – December



## Depreciation Reserve As Compared to Capital Spending FY15-CY20



Depreciation Capital Improvement

Operations and Maintenance Expenses January through December 2020

> \$25,000,000 \$20,000,000 \$15,000,000 \$10,000,000 \$5,000,000 \$-Actu

Actual Budgeted Expenses Expenses through through 12/31/2020 12/31/2020

JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

## **Budget to Actual Significant Discrepancies**

Vacancies in Multiple Areas due to talent pool, retirees and resignations causing an overall decrease in spending:

- FERC 580 Grid Asset Management
- FERC 582 Station Technicians
- FERC 588 Materials Management
- FERC 593, 594, 598 Linemen
- FERC 920 Admin Staff

COVID causing a decrease in spending:

- FERC 593 Tree Trimming Program halted/decreased
- FERC 923 Education and Training Programs cancelled or diminished

Unforeseen events causing an increase in spending:

- FERC 926 Sick Buyback Payouts, less Capital Projects
- FERC 935 Roof Repairs
- FERC 935 Security Monitoring Measures for IT infrastructure

#### Town of Reading, Massachusetts Municipal Light Department Statement of Net Assets 12/31/2020

	2020	2019
ASSETS		
Current:		
Unrestricted Cash	\$ 20,158,534 \$	\$ 20,028,398
Restricted Cash	31,498,068	30,899,468
Restricted Investments	1,367,450	1,329,708
Receivables, Net	7,768,519	7,114,247
Prepaid Expenses	2,618,377	2,596,191
Inventory	1,880,288	1,822,376
Total Current Assets	65,291,238	63,790,388
Noncurrent:		
Investment in Associated Companies	813,262	802,212
Capital Assets, Net	82,916,713	80,350,454
Total Noncurrent Assets	83,729,975	81,152,666
Deferred Outflows - Pension Plan	8,102,116	8,102,116
TOTAL ASSETS	157,123,329	153,045,170
LIABILITIES		
Current		
Accounts Payable	6,740,339	6,400,929
Accrued Liabilities	396,465	334,183
Customer Deposits Advances from Associated Companies	1,406,058 200,000	1,308,650 200,000
Customer Advances for Construction	1,828,531	1,952,241
Total Current Liabilities	10,571,393	10,196,004
Non-current		
Non-current		
Accrued Employee Compensated Absences	2,221,737	2,471,374
Net OPEB Obligation	7,094,569	7,094,569
Net Pension Liability	14,610,001	14,610,001
Total Non-current Liabilities	23,926,307	24,175,944
Deferred Inflows - Pension Plan	1,964,276	1,964,276
TOTAL LIABILITIES	36,461,977	36,336,224
NET POSITION		
Invested in Capital Assets, Net of Related Debt	82,916,713	80,350,454
Restricted for Depreciation Fund	10,328,560	8,334,981
Restricted for Pension Trust	6,365,431	6,365,431
	21,050,648	21,658,080
TOTAL NET POSITION Total Liabilities and Net Assets	120,661,352 \$ 157,123,329 \$	116,708,946 \$ 153,045,170
	φ 101,120,023 0	φ 100,0 <del>1</del> 0,170

#### Town of Reading, Massachusetts Municipal Light Department Business Type Proprietary Fund Statement of Revenues, Expenses and Changes in Fund Net Assets 12/31/2020

	Month Current Year	Month Last Year	Year to Date Current Year	Year to Date Last Year	Percent Change
Operating Revenues					
Base Revenue Fuel Revenue Burghanad Bayar Canacity & Transmission	\$ 2,142,525 1,770,984	\$ 2,099,260 2,043,399	\$ 27,563,289 25,190,503	\$ 27,025,379 27,180,052	2.0% (7.3%)
Purchased Power Capacity & Transmission Forfeited Discounts	2,428,792 75,177	2,030,912 68,419	32,421,014 825,514	33,797,614 808,092	(4.1%) 2.2%
Energy Conservation Revenue	49,247	50,804	642,683	639,334	0.5%
NYPA Credit	(99,808)	(95,931)	(1,070,670)	(1,138,494)	(6.0%)
Total Operating Revenues	6,366,916	6,196,864	85,572,333	88,311,979	(3.1%)
Expenses			P		
Power Expenes:					
547 Purchased Power Fuel	1,913,446	2,195,693	25,060,119	27,159,319	(7.7%)
555 Purchased Power Capacity	1,426,282	1,578,370	18,181,263	21,079,872	(13.8%)
565 Purchased Power Transmission	1,015,615	938,276	14,016,892	12,763,084	9.8%
Total Purchased Power	4,355,343	4,712,338	57,258,273	61,002,275	(6.1%)
Operations and Maintenance Expenses:					
580 Supervision and Engineering	110,367	100,861	1,040,014	942,608	10.3%
581 Station/Control Room Operators	41,407	53,341	485,450	517,559	(6.2%)
582 Station Technicians	64,684	69,602	442,272	414,109	6.8%
583 Line General Labor	67,217	57,015	584,261	434,419	34.5%
586 Meter General	27,121	14,984	159,674	134,044	19.1%
588 Materials Management	49,013	48,116	442,388	368,248	20.1%
593 Maintenance of Lines - Overhead	112,949	48,112	400,587	449,161	(10.8%)
593 Maintenance of Lines - Tree Trimming	186,191	99,332	631,152	561,923	12.3%
594 Maintenance of Lines - Underground 595 Maintenance of Line - Transformers	12,497	7,875	56,754	85,518	(33.6%)
598 Line General Leave Time Labor	29,371 65,935	44,884 37,837	188,975 414,901	167,830 457,091	12.6%
Total Operations and Maintenance Expenses	766,752	581,959	4,846,428	4,532,513	<u>(9.2%)</u> 6.9%
General & Administration Expenses:					
903 Customer Collections	115,141	93,373	1,293,878	1,240,051	4.3%
904 Uncollectible Accounts	(54,549)	(38,184)	41,701	58,066	(28.2%)
916 Energy Audit	97,617	63,653	655,991	550,450	19.2%
916 Energy Conservation	323,776	129,657	986,585	689,535	43.1%
920 Administrative and General Salaries	197,501	200,276	2,038,351	1,934,812	5.4%
921 Office Supplies and Expense	2,013	3,255	8,504	14,991	(43.3%)
923 Outside Services - Legal	111,591	111,295	544,220	455,160	19.6%
923 Outside Services - Contract	76,150	15,598	349,362	212,593	64.3%
923 Outside Services - Education	23,549	16,930	61,935	87,814	(29.5%)
924 Property Insurance	29,738	29,016	383,382	348,688	10.0%
925 Injuries and Damages	-	13,051	3,723	78,632	(95.3%)
926 Employee Pensions and Benefits	710,676	1,404,632	3,921,126	4,643,364	(15.6%)
930 Miscellaneous General Expense	37,516	34,183	257,187	252,520	1.8%
931 Rent Expense	3,382	4,594	194,542	195,511	(0.5%)
933 Vehicle Expenses	92,329	63,597	279,023	338,838	(17.7%)
933 Vehicle Expenses - Capital	(24,941)	(19,494)	(336,159)	(311,430)	7.9%
935 Maintenance of General Plant	60,289	43,068	544,988	436,075	25.0%
935 Maintenance of Building & Garage Total General & Administration Expenses	152,114 1,953,893	125,731 2,294,232	1,178,224 12,406,564	868,748 12,094,417	35.6% 2.6%
	1,800,080	2,234,232	12,400,004	12,034,417	2.070

#### Town of Reading, Massachusetts Municipal Light Department Business Type Proprietary Fund Statement of Revenues, Expenses and Changes in Fund Net Assets 12/31/2020

	Month Current Year	Month Last Year	Year to Date Current Year	Year to Date Last Year	Percent Change
Other Operating Expenses:					<u> </u>
403 Depreciation	391,601	377,171	4,699,207	4,525,997	3.8%
408 Voluntary Payments to Towns	133,917	130,804	1,607,009	1,569,667	2.4%
Total Other Expenses	525,517	507,975	6,306,216	6,095,664	3.5%
Operating Income	(1,234,590)	(1,899,640)	4,754,851	4,587,110	3.7%
Non Operating Revenues (Expenses):					
415 Contribution in Aid of Construction	24,969	146,795	484,888	356,926	35.9%
415 Other	139,804	143,931	976,649	997,579	(2.1%)
419 Interest Income	15,669	513,743	262,831	969,188	(72.9%)
426 Return on Investment to Reading	(206,709)	(206,709)	(2,480,506)	(2,480,506)	0.0%
426 Loss on Disposal	(18,529)	(81,563)	(18,529)	(81,563)	(77.3%)
431 Interest Expense	18,972	(1,208)	(27,777)	(29,596)	(6.1%)
Total Non Operating Revenues (Expenses)	(25,825)	514,988	(802,444)	(267,974)	199.4%
Change in Net Assets	(1,260,415)	(1,384,651)	3,952,406	4,319,137	(8.5%)
Net Assets at Beginning of Year	116,708,946	112,389,809	116,708,946	112,389,809	3.8%
Ending Net Assets	\$ 115,448,531	\$ 111,005,157	\$ 120,661,352	\$ 116,708,945	3.4%

#### Town of Reading, Massachusetts Municipal Light Department Business Type Proprietary Fund Statement of Budgeted Revenues, Expenses and Changes in Fund Net Assets 12/31/2020

	Actual 12/31/2020		Budget CY2020		OVER/ (UNDER) \$	OVER/ (UNDER) %
Operating Revenues						<u> </u>
Base Revenue Fuel Revenue Purchased Power Capacity & Transmission Forfeited Discounts Energy Conservation Revenue	2	27,563,289 25,190,503 32,421,014 825,514 642,683	\$	29,040,738 28,063,578 37,709,613 871,222 658,683	(2,873,075) (5,288,599) (45,708) (16,000)	(5.1%) (10.2%) (14.0%) (5.2%) (2.4%)
NYPA Credit		1,070,670) 35,572,333		(1,138,021) 95,205,813	67,351 (9,633,480)	(5.9%)
Total Operating Revenues Expenses		<b>R</b> /		5,205,813	(9,033,460)	(10.1%)
Power Expenses:						
<ul> <li>555 Purchased Power Fuel</li> <li>555 Purchased Power Capacity</li> <li>565 Purchased Power Transmission</li> <li>Total Purchased Power</li> </ul>	1	25,060,119 18,181,263 14,016,892 57,258,273		26,925,557 22,457,141 15,252,472 64,635,170	(1,865,438) (4,275,878) (1,235,580) (7,376,897)	(6.9%) (19.0%) (8.1%) (11.4%)
Operations and Maintenance Expenses:						
<ul> <li>580 Supervision and Engineering</li> <li>581 Station/Control Room Operators</li> <li>582 Station Technicians</li> <li>583 Line General Labor</li> </ul>		1,040,014 485,450 442,272 584,261		1,127,868 476,641 543,129 468,999	(87,854) 8,809 (100,857) 115,262	(7.8%) 1.8% (18.6%) 24.6%
586 Meter General 588 Materials Management 593 Maintenance of Lines - Overhead		159,674 442,388 400,587		166,732 504,493 1,003,333	(7,058) (62,105) (602,746)	(4.2%) (12.3%) (60.1%)
593 Maintenance of Lines - Tree Trimming 594 Maintenance of Lines - Underground 595 Maintenance of Line - Transformers 598 Line General Leave Time Labor		631,152 56,754 188,975 414,901		899,090 112,590 223,438 569,169	(267,938) (55,836) (34,463) (154,268)	(29.8%) (49.6%) (15.4%) (27.1%)
Total Operations and Maintenance Expenses		4,846,428		6,095,482	(1,249,054)	(20.5%)
General & Administration Expenses:						
903 Customer Collection 904 Uncollectible Accounts		1,293,878 41,701		1,181,516 105,000	112,362 (63,299)	9.5% (60.3%)
916 Energy Audit 916 Energy Conservation		655,991 986,585		647,519 958,765	8,472 27,820	1.3% 2.9%
<ul> <li>920 Administrative and General Salaries</li> <li>921 Office Supplies and Expense</li> <li>923 Outside Services - Legal</li> <li>923 Outside Services - Contract</li> </ul>		2,038,351 8,504 544,220		2,109,933 20,000 498,400 261,250	(71,582) (11,496) 45,820	(3.4%) (57.5%) 9.2%
923 Outside Services - Contract 923 Outside Services - Education 924 Property Insurance		349,362 61,935 383,382		361,250 266,975 437,500	(11,888) (205,040) (54,118)	(3.3%) (76.8%) (12.4%)
925 Injuries and Damages 926 Employee Pensions and Benefits 930 Miscellaneous General Expense 931 Rent Expense		3,723 3,921,126 257,187 194,542		25,600 3,684,469 317,286 212,000	(21,877) 236,657 (60,099) (17,459)	(85.5%) 6.4% (18.9%) (8.2%)
933 Vehicle Expense 933 Vehicle Expense - Capital Clearing		279,023 (336,159)		333,600 (225,125)	(54,577) (111,034)	(16.4%) 49.3%
<ul><li>935 Maintenance of General Plant</li><li>935 Maintenance of Building &amp; Garage</li><li>Total General &amp; Administration Expenses</li></ul>	1	544,988 1,178,224 12,406,564		394,440 908,880 12,238,008	150,548 <u>269,344</u> 168,556	38.2% 29.6% 1.4%

#### Town of Reading, Massachusetts Municipal Light Department Business Type Proprietary Fund Statement of Budgeted Revenues, Expenses and Changes in Fund Net Assets 12/31/2020

Other Operating Expenses:

403 Depreciation 408 Voluntary Payments to Towns Total Other Expenses	 4,699,207 1,607,009 6,306,216	4,734,000 1,617,660 6,351,660	(34,793) (10,651) (45,444)	(0.7%) (0.7%) (0.7%)
Operating Income	 4,754,851	5,885,493	(1,130,642)	(19.2%)
Non Operating Revenues (Expenses):				
<ul> <li>415 Contribution in Aid of Construction</li> <li>415 Other Income</li> <li>419 Interest Income</li> <li>426 Return on Investment to Reading</li> <li>426 Loss on Disposal</li> <li>431 Interest Expense</li> <li>Total Non Operating Revenues (Expenses)</li> </ul>	 484,888 976,649 262,831 (2,480,506) (18,529) (27,777) (802,444)	- 850,000 350,000 (2,480,506) (100,000) (25,000) (1,405,506)	484,888 126,649 (87,169) (0) 81,471 (2,777) 603,062	100.0% 14.9% (24.9%) 0.0% (81.5%) 11.1% (42.9%)
Net Income	\$ 3,952,406	\$ 4,479,987	\$ (527,581)	(11.8%)