

**READING MUNICIPAL
LIGHT DEPARTMENT**

BOARD OF COMMISSIONERS

REGULAR SESSION

WEDNESDAY APRIL 24, 2019

APPROVAL OF BOARD MINUTES
FEBRUARY 13, 2019
ATTACHMENT 1



Town of Reading Meeting Minutes

Board - Committee - Commission - Council:

RMLD Board of Commissioners

Date: 2019-2-13

Time: 07:30 PM

Building: Reading Municipal Light Building

Location: Winfred Spurr Audio Visual Room

Address: 230 Ash Street

Session: Open Session

Purpose: General Business

Version: Final

Attendees: **Members - Present:**

David Hennessy, Chair; David Talbot, Vice Chair; John Stempeck, Commissioner; Thomas O'Rourke, Commissioner; Philip B. Pacino, Commissioner

Members - Not Present:

Others Present:

RMLD Staff: Coleen O'Brien, General Manager, Hamid Jaffari, Director of Engineering and Operations; Charles Underhill, Director of Integrated Resources; Wendy Markiewicz, Director of Business, Finance, and Utility Technology; Tracy Schultz, Executive Assistant

Citizens' Advisory Board: Jason Small, Vice-Chair

Town of Reading: Mark Dockser, Finance Committee.

Minutes Respectfully Submitted By: John Stempeck, Secretary Pro Tem

Topics of Discussion:

Call Meeting to Order

Chair Hennessy called the meeting to order and read RMLD's Code of Conduct. Chair Hennessy announced that the meeting is being videotaped at the RMLD office at 230 Ash Street, for distribution to the community television stations in North Reading, Lynnfield, and Wilmington.

Public Comment

Chair Hennessy welcomed Mr. Small and Mr. Dockser and asked Mr. Stempeck to serve as Board Secretary. There was no public comment.

Report of the Citizens' Advisory Board Meeting on February 13, 2019

Mr. Stempeck stated that the CAB met prior to the Board. The CAB reviewed and commented on the Board's motion regarding the payment to the Town of Reading. The CAB had insightful questions and they passed the motion as stated.

Mr. Pacino stated that Frank Hadley, a long-time employee and General Line Foreman, passed away and expressed the Board's condolences to Frank's wife Claire, who was also an employee of RMLD.

General Manager's Report – Ms. O'Brien

a. Report on attendance at the NextEra Energy Marketing Public Power Summit on February 4 to February 6, 2019

Ms. O'Brien thanked the Board for allowing her to attend. NextEra did an excellent job presenting on a variety of topics. Solar issues in California were discussed. During the day the solar is taking on a large amount of the baseload, but solar is not dispatchable: generation alternatives need to be used at night. Gas prices were discussed. New England has a gas shortage during the winter due to limited piping capacity. Ms. O'Brien stated she has asked NextEra for the presentation slides, which she will pass on to the Commissioners. It was two and-a-half days of training. kWh sales dropping throughout nation was discussed.

Mr. Underhill stated that one of the issues with the more popular renewable resources are that they are non-dispatchable. Solar production occurs for about a 16 percent window over the course of the year. That's its production factor. The load profile of RMLD is about 70 percent efficiency during the course of any month, and about 55 percent over the course of the entire year. There is a significant mismatch when you produce 16 percent of the time and need to spread that over another 55 to 70 percent of the time. In order to do that, you have to have storage capability. The ISO in California and the ISO in New England have both introduced significant amounts of solar generation in the past ten years and California has reached its saturation limit. Any new solar is supposed to have storage capability. You need to fill the nighttime hours with generation; solar can't do that. RMLD has a battery storage project coming online this summer. It has 5 megawatts of battery capability at 10 megawatt hours. Chair Hennessy asked how much energy that is and what it will support. Mr. Underhill answered that the average home in RMLD's service territory uses 750 kWh a month. 10,000 megawatt hours would accommodate about 1,200. Mr. Talbot asked about peak reduction. Mr. Underhill stated it would be about three percent of RMLD's peak usage and will be used to reduce RMLD's net peak obligation. Mr. Talbot stated that he didn't think RMLD was close to its solar threshold. Ms. O'Brien stated that each feeder can only handle a certain amount of solar, but the reason she brought it up was because legislation in Massachusetts has been mirroring California. RMLD wants to stay ahead of the battery storage curve. RMLD will continue to look at community solar. The issue is solar development without storage capability. Mr. Underhill added that there are no plans to slow solar development at RMLD.

b. Organizational Study Report

Ms. O'Brien stated that there are four items remaining, which are employee surveys, customer surveys, HR support and the strategic plan revision. Community Relations is working on the surveys. For HR support, the HR Manager gave her notice. Ms. O'Brien stated that she has started interviewing and there are a number of vacancies posted on the website. Senior management had a second meeting to develop the strategic plan, which is being facilitated by Selectman Prisco from North Reading. Once it is in the draft stage it will be shown to the Commission.

Integrated Resources Division – Mr. Underhill

Power Supply Report – December 2018

Mr. Underhill stated that through the end of the year there was essentially zero differential between actual and budget. Energy costs were a little lower than budgeted. Capacity broke even. The transmission expense was higher. Mr. Underhill reviewed the resources by month. In September, November, and December RMLD sold resources into the market as opposed to purchasing. Mr. Underhill then discussed the 2018 resource portfolio and stated there was twelve percent market exposure. Mr. Underhill announced that the greenhouse gas report has been completed for 2017.

Mr. Dockser asked how much RMLD wants to be buying in the spot market. Mr. Underhill explained that some piece will be in the spot market. Day ahead and real time markets are the lowest priced energy. RMLD uses other resources because they accomplish other objectives. Purchasing wind, solar, and hydro help meet greenhouse gas emissions commitments. RMLD buys some power through NextEra because it stabilizes the price paid and eliminates volatility. RMLD looks for about 10 to 15 percent market exposure. RMLD tries to keep the exposure down

Integrated Resources Division – Mr. Underhill

Power Supply Report – December 2018

in the winter and summer months. Mr. Underhill stated that when the market price goes up RMLD has protection built into its portfolio. Exposure is capped. Ms. O'Brien asked Mr. Underhill to plan to give an update on the load following pilot. The agreement has been executed NextEra at less than September prices.

Reliability Study Report – Mr. Jaffari

Mr. Jaffari stated he would be reporting on items recommended in the Booth Study. Approximately 65 percent completed. RMLD is negotiating with National Grid for land for the Wilmington substation. Once the substation is built most of the items will be completed. Since the last report, the GIS upgrade program has been completed. An editing program has been built on top of the GIS. The Milsoft Windmil model and the SCADA software upgrade have been completed. The load was balanced with underground getaways at main feeder 4W28 at Analog. The timing delay on Station 3 transformers have been updated and oil gauges have been replaced. The cooling contactor of transformer 110D at Station 4 has been repaired.

General Discussion

Mr. Pacino asked about a pole on South Hopkins that keeps getting hit by vehicles. Mr. Jaffari replied that engineers have looked at it. The pole is in Wakefield. Mr. Jaffari stated he is talking to Reading DPW about installing a guardrail.

Mr. Pacino Green New Deal. Resolution at the federal level. Ten-year time table.

Mr. Stempeck stated that he had heard there are concerns from the Select Board that the Town would be included in any liability that RMLD faces. Mr. Stempeck stated that he asked legal counsel and RMLD is separate from Town. Mr. Stempeck invited the Select Board to provide clarification regarding what the concerns are.

Meeting dates were discussed.

Adjournment

At 8:43 p.m., Mr. Pacino made a motion, seconded by Mr. O'Rourke, that the Board go into Executive Session to consider the purchase of real property and to discuss confidential, competitively-sensitive and proprietary information in relation to making, selling, or distributing electric power and energy, and return to Regular Session for the sole purpose of adjournment.

A true copy of the RMLD Board of Commissioners minutes
as approved by a majority of the Commission.

John Stempeck, Secretary Pro Tem
RMLD Board of Commissioners

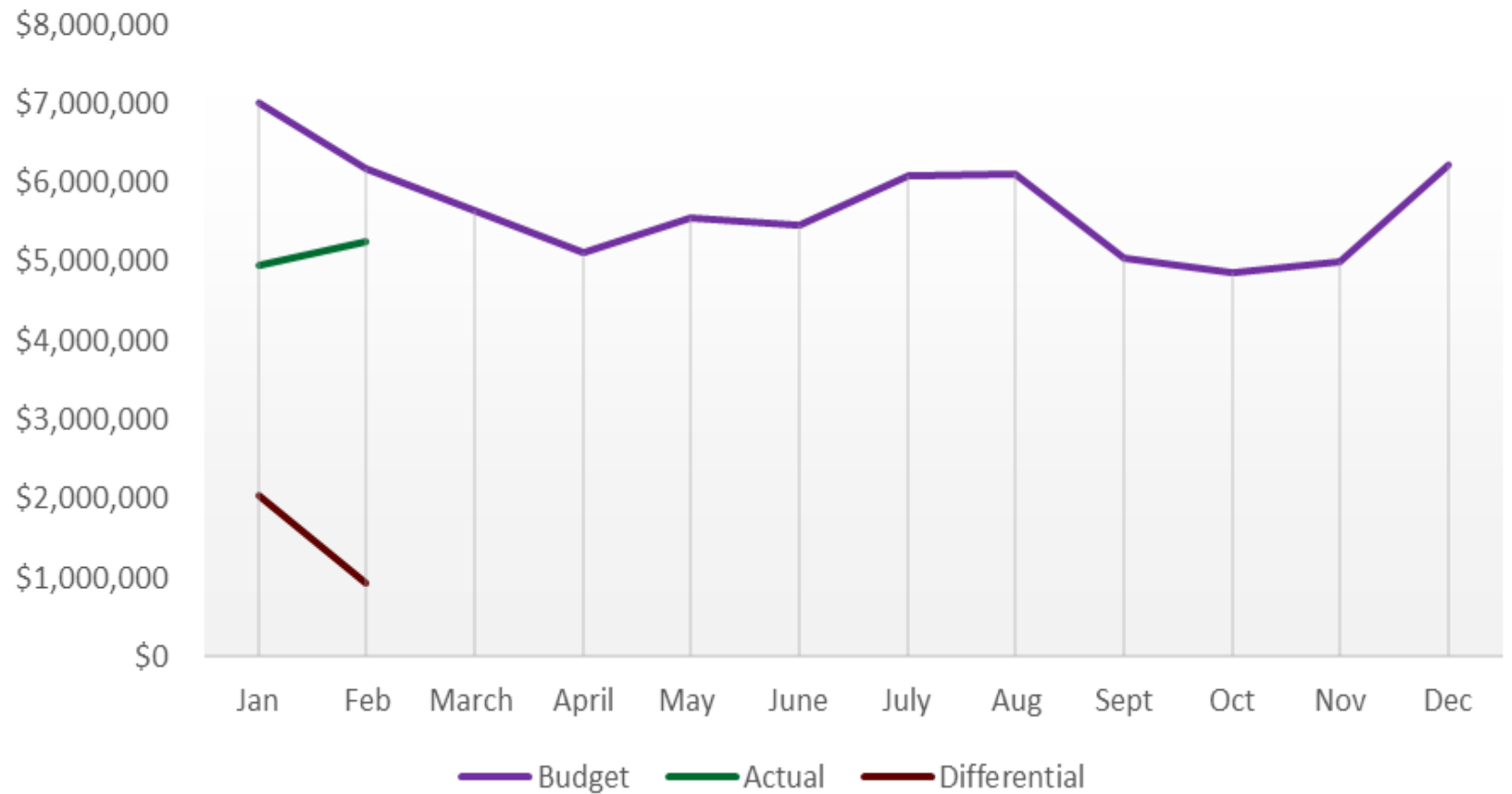
POWER SUPPLY REPORT
FEBRUARY 2019
ATTACHMENT 2



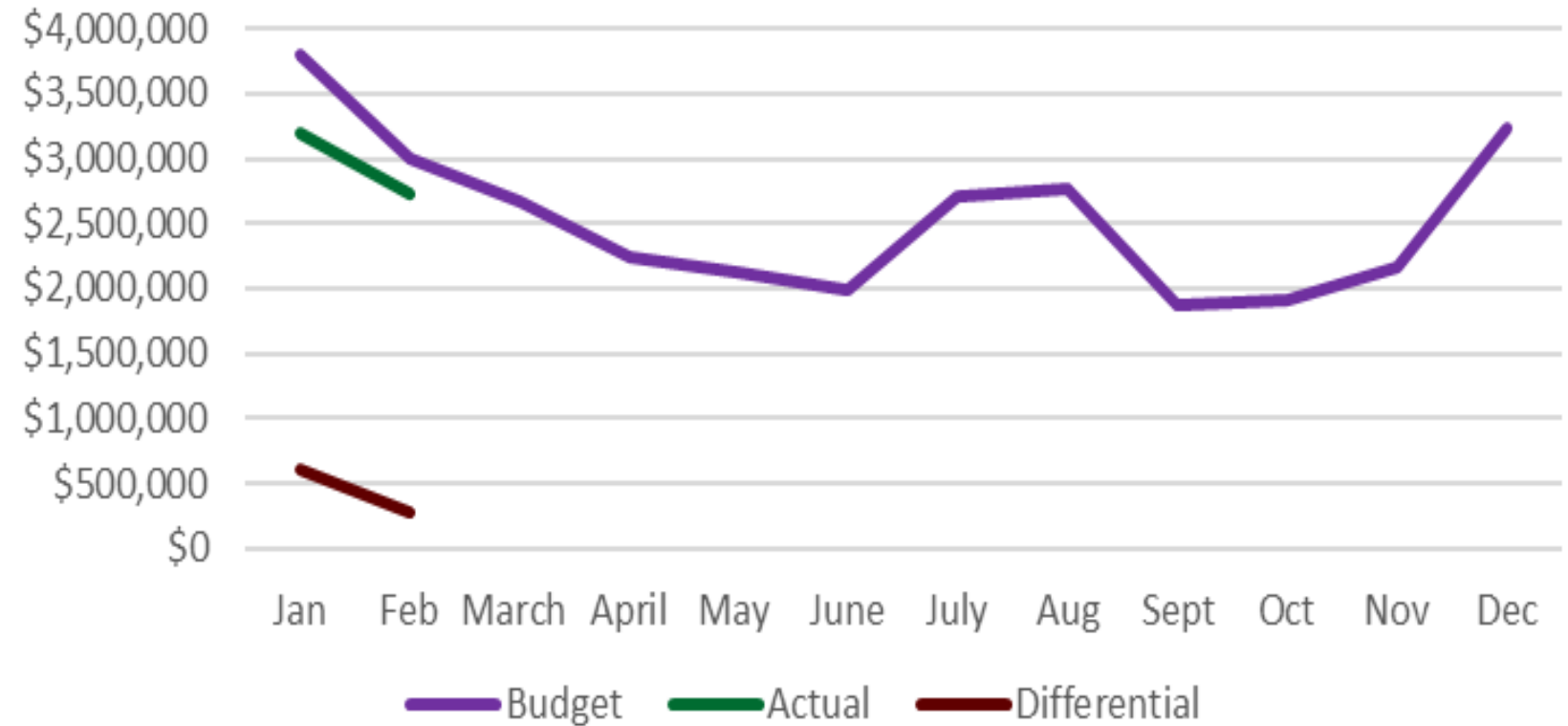
Board of Commissioners Meeting April 24, 2019

*William Seldon, Assistant Director of Integrated Resources
Reporting for February, 2019*

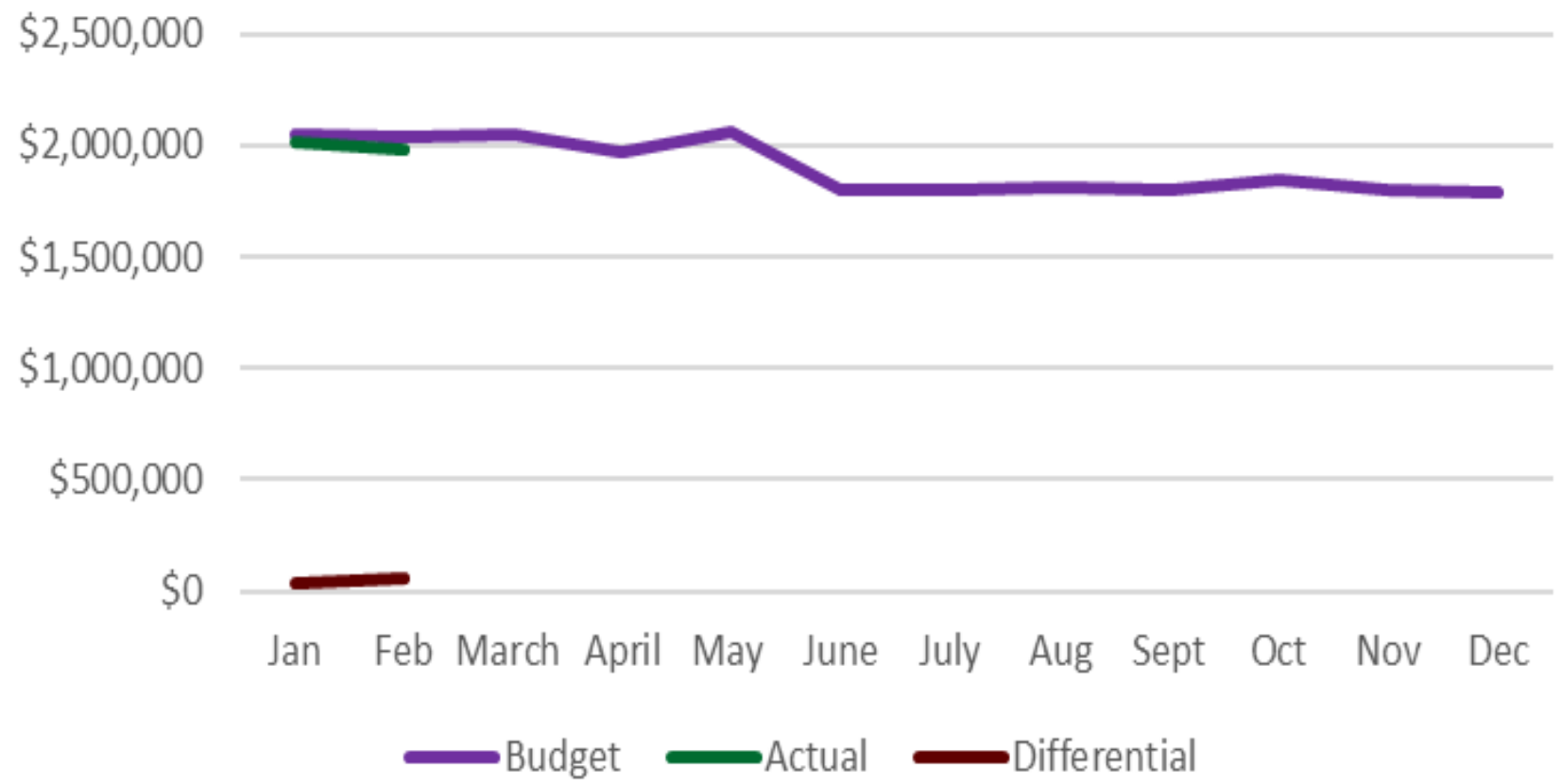
Total Purchase Power Expenses Budget vs. Actual through February 2019



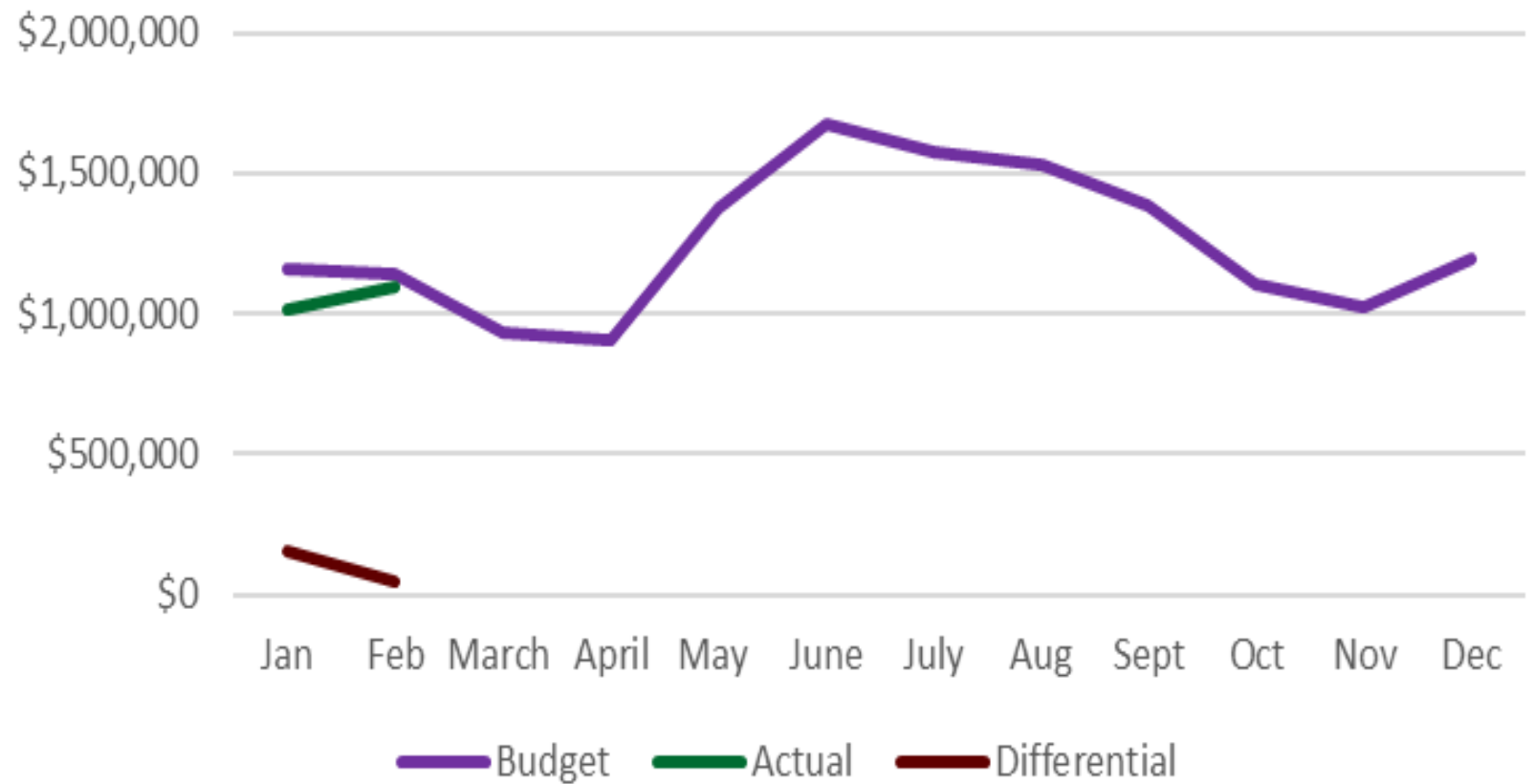
Energy Costs Budget vs. Actual through February 2019



Capacity Costs Budget vs. Actual through February 2019



Transmission Costs Budget vs. Actual through February 2019





Actual kWh Purchases by Resource 2019



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

To: Coleen O'Brien

From:  Maureen McHugh, Charles Underhill 

Date: April 9, 2019

Subject: Purchase Power Summary –February 2019

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

ENERGY

The RMLD's total metered load for the month of February was 50,903,461, which is a 2.30% increase from the February 2018 figures. The system distribution losses are 3.6%.

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

Table 1

Resource	Amount of Energy (kWh)	Cost of Energy (\$/Mwh)	% of Total Energy	Total \$ Costs	\$ as a %
Millstone #3	3,342,041	\$6.38	6.53%	\$21,331	0.78%
Seabrook	5,321,370	\$5.27	10.39%	\$28,056	1.03%
Stonybrook Intermediate	8,961	\$86.13	0.02%	\$772	0.03%
NYPA	2,184,238	\$4.92	4.27%	\$10,746	0.39%
Nextera	29,480,000	\$62.01	57.56%	\$1,828,073	66.91%
ISO Interchange	(2,087,448)	\$4.15	-4.08%	-\$8,656	-0.32%
Nema Congestion	-	\$0.00	0.00%	\$6,421	0.24%
Coop Resales	11,973	\$148.44	0.02%	\$1,777	0.07%
Hydro Projects*	4,904,492	\$78.67	9.58%	\$385,838	14.12%
Braintree Watson Unit	76,382	\$380.27	0.15%	\$29,046	1.06%
Saddleback/Jericho Wind	2,264,781	\$86.30	4.42%	\$195,456	7.15%
Community Solar	296,916	\$73.91	0.58%	\$21,945	0.80%
Exelon	5,408,000	\$39.09	10.56%	\$211,399	7.74%
Stonybrook Peaking	0	\$0.00	0.00%	\$0	0.00%
Monthly Total	51,211,706	\$53.35	100.00%	\$2,732,204	100.00%

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

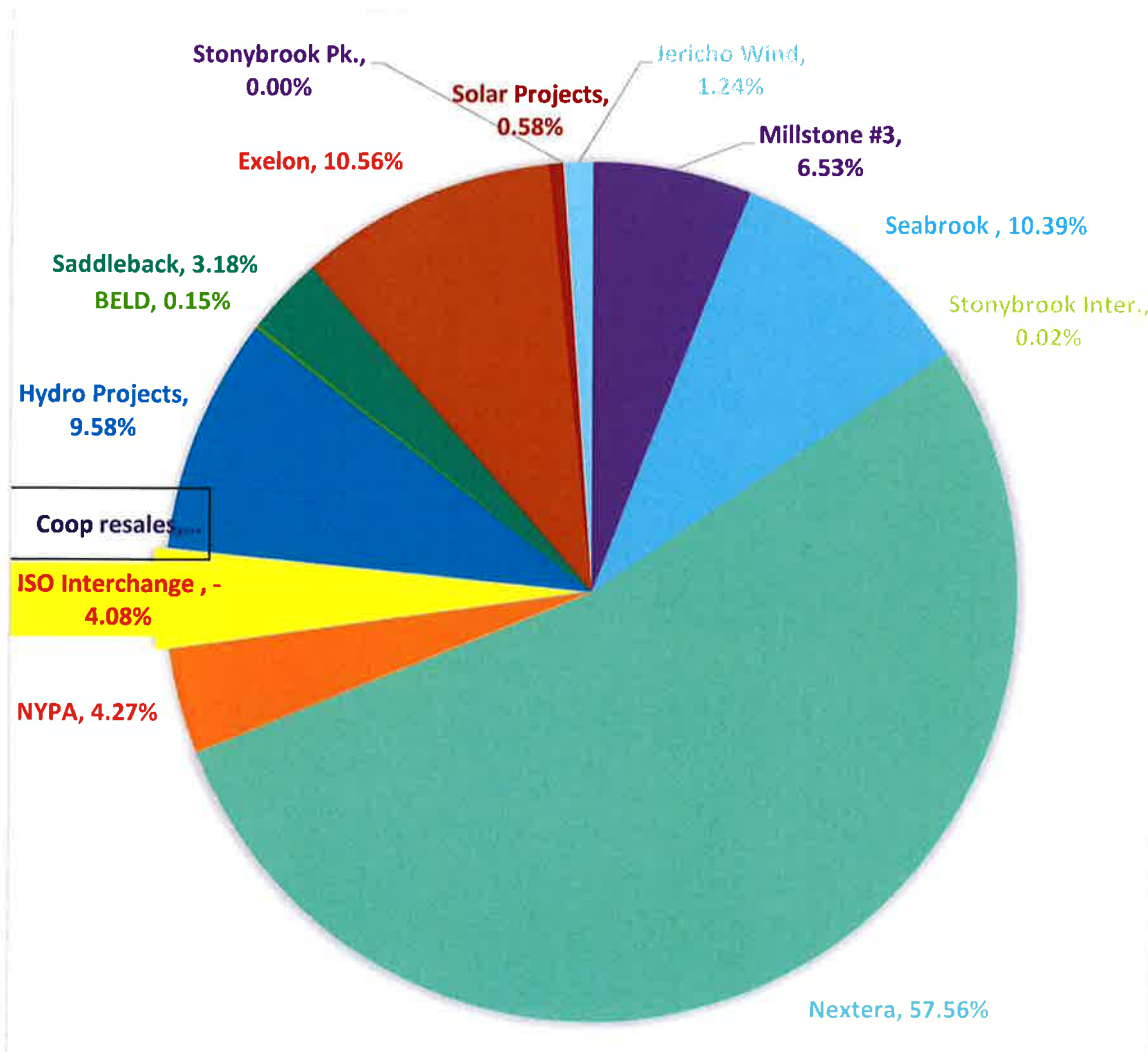
Table 2 breaks down the ISO interchange between the DA LMP Settlement and the RT Net Energy for the month of February 2019.

Table 2

Resource	Amount of Energy (kWh)	Cost of Energy (\$/Mwh)	% of Total Energy
ISO DA LMP *	4,233,469	\$47.63	8.27%
RT Net Energy **	(6,320,918)	\$33.27	-12.34%
ISO Interchange (subtotal)	(2,476,124)	\$4.15	-4.84%

* Independent System Operator Day-Ahead Locational Marginal Price

FEBRUARY 2019 ENERGY BY RESOURCE



CAPACITY

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

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

Table 3

Source	Amount (kW)	Cost (\$/kW-month)	Total Cost \$	% of Total Cost
Millstone #3	4,950	22.77	\$112,711	5.69%
Seabrook	7,914	18.99	\$150,294	7.59%
Stonybrook Peaking	24,980	1.90	\$47,349	2.39%
Stonybrook CC	42,925	3.48	\$149,304	7.54%
NYPA	0	0.00	-\$15,105	-0.76%
Hydro Quebec	0	0	-\$55,542	-2.80%
Braintree Watson Unit	0	0.00	-\$2,916	-0.15%
ISO-NE Supply Auction	154,606	10.31	\$1,594,501	80.51%
Total	235,375	\$8.41	\$1,980,596	100.00%

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

Table 4

Resource	Energy	Capacity	Total cost	% of Total Cost	Amt of Energy (kWh)	Cost of Power (\$/kWh)
Millstone #3	\$21,331	\$112,711	\$134,042	2.85%	3,342,041	\$0.0401
Seabrook	\$28,056	\$150,294	\$178,350	3.80%	5,321,370	\$0.0335
Stonybrook Intermediate	\$772	\$149,304	\$150,076	3.19%	8,961	\$16.7477
Hydro Quebec	\$0	-\$55,542	-\$55,542	-1.18%	-	\$0.0000
NextEra/EDF	\$1,828,073	\$0	\$1,828,073	38.91%	29,480,000	\$0.0620
* NYPA	\$10,746	\$0	-\$4,359	-0.09%	2,184,238	-\$0.0020
NYPA FCM Credit	\$0	-\$15,105	-\$15,105	-0.32%	-	\$0.0000
ISO Interchange	-\$8,656	0	-\$8,656	-0.18%	(2,087,448)	\$0.0041
ISO Capacity	\$0	\$1,594,501	\$1,594,501	33.94%	-	\$0.0000
Nema Congestion	\$6,421	\$0	\$6,421	0.14%	-	\$0.0000
* Hydro Projects	\$385,838	\$0	\$385,838	8.21%	4,904,492	\$0.0787
Braintree Watson Unit	\$29,046	-\$2,916	\$26,130	0.56%	76,382	\$0.3421
* Saddleback/Jericho	\$195,456	\$0	\$195,456	4.16%	2,264,781	\$0.0863
* Burlington & Community Solar	\$21,945	\$0	\$21,945	0.47%	296,916	\$0.0739
Coop Resales	\$1,777	\$0	\$1,777	0.04%	11,973	\$0.1484
Exelon Energy	\$211,399	\$0	\$211,399	4.50%	5,408,000	\$0.0391
Stonybrook Peaking	\$0	\$47,349	\$47,349	1.01%	-	\$0.0000
Monthly Total	\$2,732,204	\$1,980,596	\$4,697,694	100.00%	51,211,706	\$0.0917

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

RENEWABLE ENERGY CERTIFICATES (RECs)

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

Table 5
RECs Summary
2018/2019

REC Classification	RECs Projected	RECs Sold	BID Current	Revenue* Potential	Revenue** Received
CT 1	13,031	3,884	8.50	\$110,759	\$28,589
MA 1	3,057	1,033	8.50	\$25,981	\$7,649
MA/CT/RI/NH1	19,342	8,163	6.25	\$120,888	\$66,055
MA/RI/NH 1	10,440	3,654	5.50	\$57,420	\$27,222
MA 2	6,199	2,115	26.50	\$164,274	\$54,403
Totals	52,068	18,849		\$479,321	\$183,917

*RECs projected sold at current bid prices

**Total dollars to date for RECs sold

TRANSMISSION

The RMLD's total transmission costs for the month of February 2019, were \$1,095,360. This is an increase of 8.11% from the January 2019 transmission cost of \$1,013,209. In February 2018, the transmission costs were \$1,233,987.

Table 6

	Current Month	Last Month	Last Year
Peak Demand (kW)	98,914	106,853	96,259
Energy (kWh)	51,211,706	58,261,672	50,211,908
Energy (\$)	\$2,732,204	\$3,192,434	\$2,950,027
Capacity (\$)	\$1,980,596	\$2,012,257	\$2,499,420
Transmission(\$)	\$1,095,360	\$1,013,209	\$1,233,987
Total	\$5,808,160	\$6,217,900	\$6,683,434

ENGINEERING & OPERATIONS REPORT ATTACHMENT 5

ENGINEERING & OPERATIONS REPORT

Hamid Jaffari, Director of Engineering & Operations

RMLD Board of Commissioners Meeting
April 24, 2019

Major Construction Projects

(Currently Underway or Recently Completed)

- **4W5/4W12 Getaway Improvements at Station 4 (Capital Project)**
Construction within Station 4 has been completed. The overhead portion of this project has continued and once completed the new lines will be energized and brought online. **Status:** *Expected completion prior to the summer of 2019.*
- **Station 4 – 4W6 and 4W16 Getaway Replacement Projects (Capital Projects)**
Preliminary work has begun simultaneously on these two projects. Crews have rodded and cleared manholes. **Status:** *In-progress*
- **5W5 Andover Access Road Upgrade in Wilmington (Capital Project)**
RMLD crews upgraded approximately 1,000 feet of open wire primary cable to 336 AL spacer cable. This is a section between Andover Street and Salem Street that runs parallel to I-93 for approximately eight (8) pole spans. This road is referred to as Andover Access Road. Five (5) poles were also upgraded as part of this project. **Status:** *Complete*

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

E&O has been working alongside IRD on the Energy Storage Project at Station 3. Over the past month, much of the site work for the interconnection has been completed. In addition, a majority of NextEra's equipment has been delivered. E&O will continue to assist IRD to bring the BESS (Battery Energy Storage System) online, and upon interconnection, will continue to support the BESS for dispatching and other needs as required.

Status: *In-progress.*



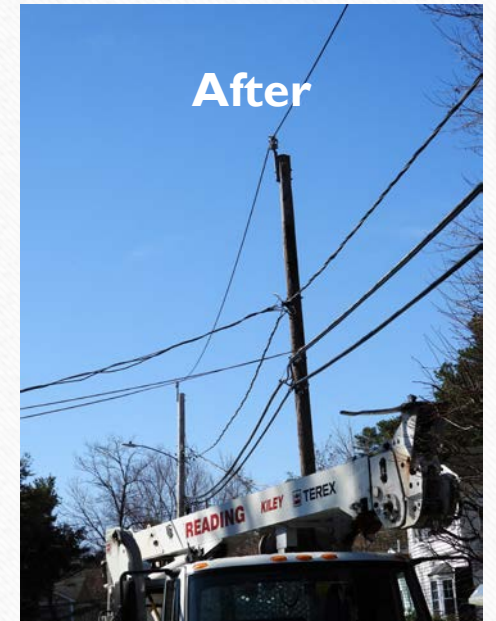
AREA UPGRADE PROJECTS

Currently Underway or Recently Completed

Stepdown Area Upgrades



- *McDonald Road Conversion, Wilmington*
RMLD converted the distribution voltage in the McDonald Road area of Wilmington from 2,400 volts to 7,970 volts. The distribution voltage was raised to 7,970 by de-energizing the area, changing the ratio switches on each transformer from 2,400 to 7,970, changing all the fuses, disconnecting and removing the stepdown transformer that used to feed the area, and then re-energizing at 7,970 volts directly from circuit 5W8 on Salem Street. **Status: Complete**



Underground Facilities Upgrades

- *Moran Road, Lynnfield* – One aged pad mount transformer and underground cable was replaced.
Status: Complete
- *Friendship Lane, Lynnfield* – One aged pad mount transformer and underground cable was replaced.
Status: Complete
- *Ohio Street, Wilmington* – Recently replaced three aged pad mount transformers. All Four transformers on the street have now been replaced. **Status: Complete**
- *Gloria Lane, North Reading* – One aged pad mount transformer as well as the riser pole was replaced. All of the underground cable will be replaced. **Status: One section of cable is left to be replaced.**



Friendship Lane

Before
and
After



Maintenance Programs

- Aged Transformer Replacement – Pad mount: 37.05% replaced Overhead: 24.39% replaced (thru February)
- Pole Inspection/Replacement Program – 260 poles set 232 transfers completed
- Tree Trimming – 281 spans YTD through February
- 2019 Inspection of Feeders –
 - 3W5, 3W6, 3W7, 3W8, 3WI3, 3WI4, 3WI5 and 3WI8 Inspected
 - 4W4, 4W5, 4W6, 4W7, 4W9, 4WI0, 4WI2, 4WI6, 4WI7, 4WI8, 4WI9 Inspected
- Infrared Scans – Completed through March - No Hot Spots Found
- Manhole Inspection – on-going
- Porcelain Cutout Replacement – on-going

Double Poles

Per NJUNS

(as of 4/12/19)

LYNNFIELD

"Next to Go"	# of Tickets
RMLD	26
Transfer	26
Pull Pole	
CMCTNR - Comcast	6
Transfer	6
LFLDFD - Lynnfield Fire Dept.	5
Transfer	5
GRAND TOTAL	37

READING

"Next to Go"	# of Tickets
VZNESA - Verizon	0
Transfer	
RMLD	37
Transfer	30
Pull Pole	7
CMCTNR - Comcast	14
Transfer	14
RDNGFD - Reading Fire Dept.	10
Transfer	10
LTFMA - Lighttower Fiber	1
Transfer	1
NP3PMA - Non-Participating 3rd Party Attachee	3
Transfer	3
GRAND TOTAL	65

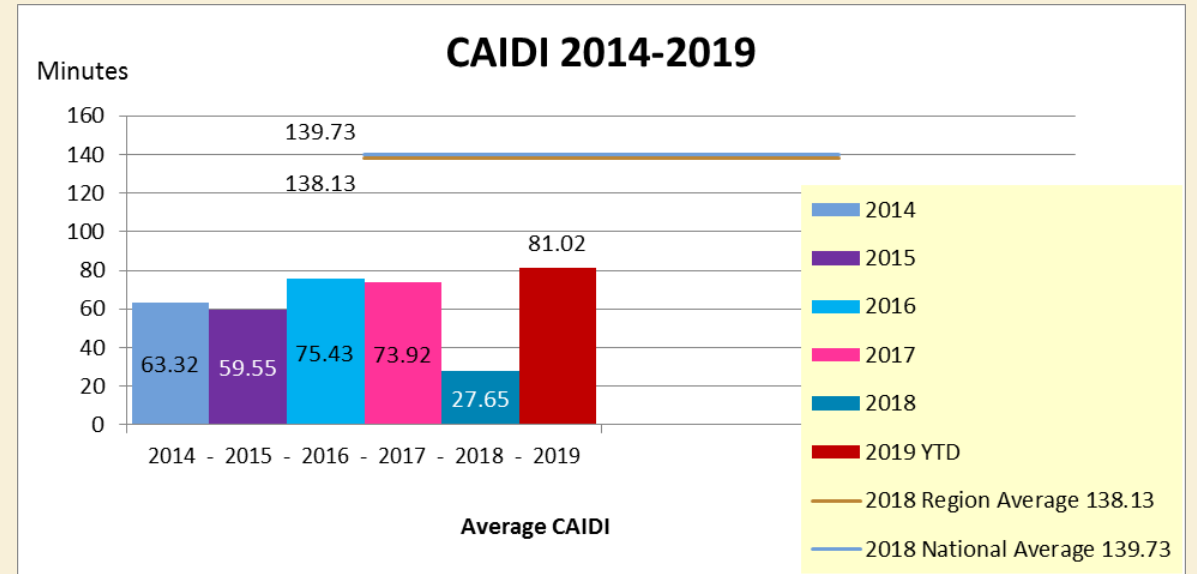
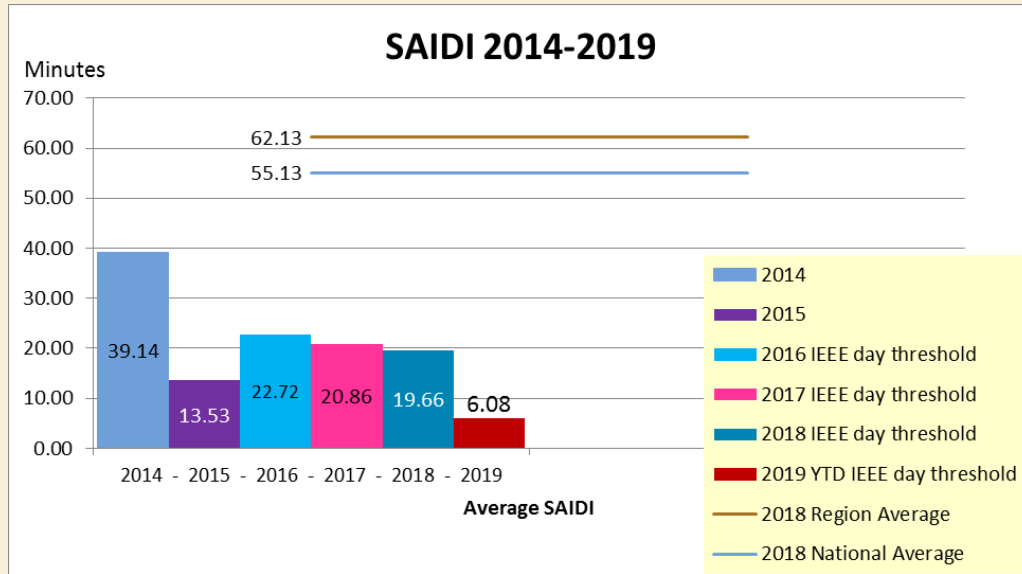
NORTH READING

"Next to Go"	# of Tickets
VZNEDR - Verizon	4
Transfer	4
RMLD	16
Transfer	3
Pull Pole	13
CMCTNR - Comcast	4
Transfer	4
NRDGF - North Reading Fire Dept.	1
Transfer	1
LTFMA - Lighttower Fiber	1
Transfer	1
GRAND TOTAL	26

WILMINGTON

"Next to Go"	# of Tickets
VZNEDR - Verizon	16
Transfer	12
Pull Pole	4
RMLD	18
Transfer	17
Pull Pole	1
CMCTNR - Comcast	9
Transfer	9
WMGNFD - Wilmington Fire Dept.	29
Transfer	29
LTFMA - Lighttower Fiber	2
Transfer	2
VZBMA - Verizon Business	1
Transfer	1
GRAND TOTAL	75

RMLD Reliability Indices

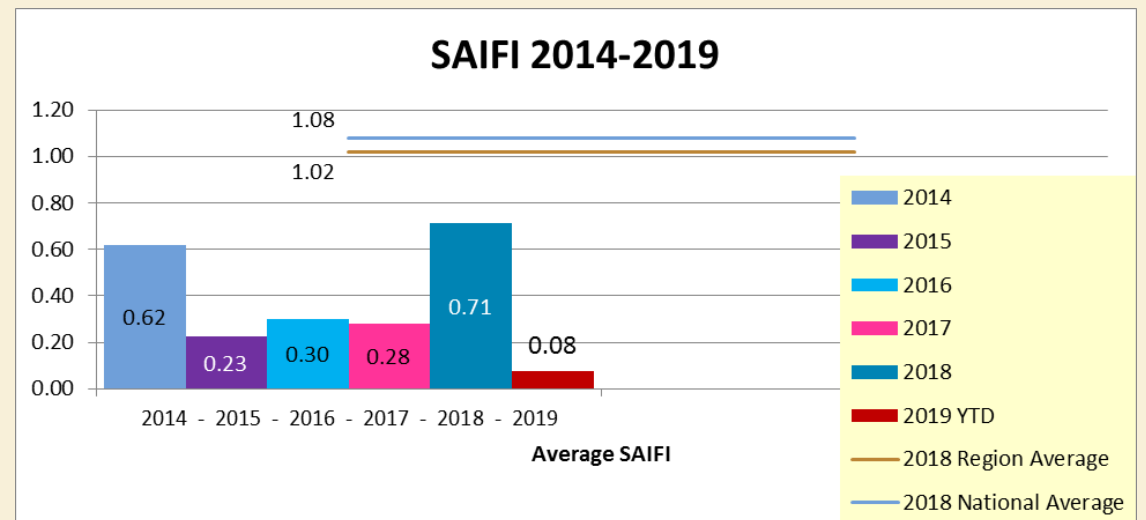


$$SAIDI \text{ (Minutes)} = \frac{\text{Total Duration of Customer Interruptions}}{\text{Total Number of Customers Served}}$$

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

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

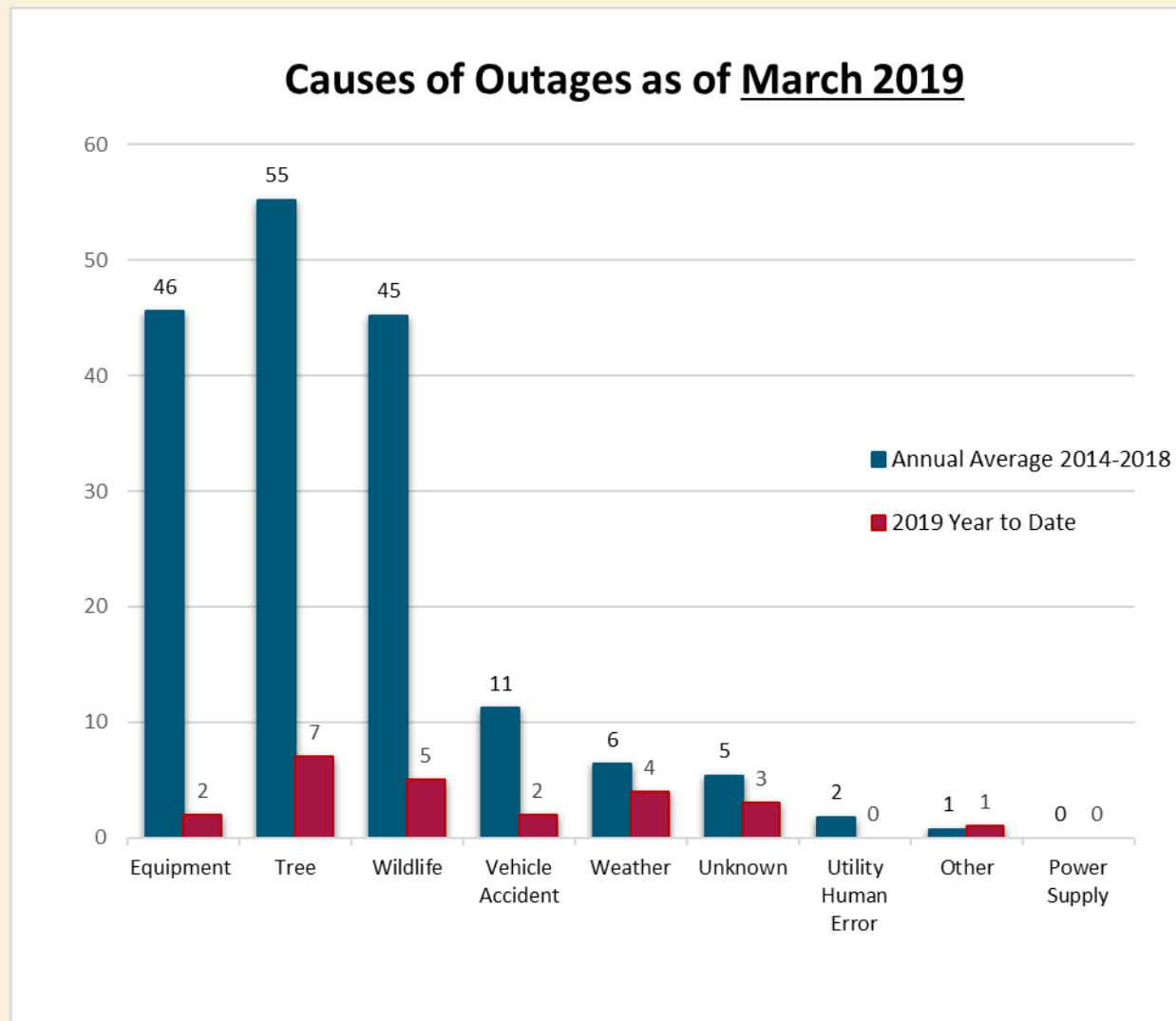
$$SAIFI = \frac{\text{Total Number of Customer Interruptions}}{\text{Total Number of Customers Served}}$$



Regional and national averages have been updated for 2018.

2019 data from January through March

Outages



Recent Significant Outage Events: storm on April 3rd; transformer failure on April 8th; motor vehicle accident on April 14th.

BOARD MATERIAL AVAILABLE
BUT NOT DISCUSSED

From: [Tracy Schultz](#)
To: [RMLD Board Members Group](#); [David Hennessy](#)
Subject: AP and Payroll Questions for 4-24-19 Board Book
Date: Monday, April 22, 2019 8:25:00 AM

Good morning,

AP:

On March 22nd there were no Commissioner questions.

On March 29th there were no Commissioner questions.

On April 5th there were no Commissioner questions.

On April 12th there were no Commissioner questions.

Payroll:

On April 1st there were no Commissioner questions.

On April 15th there was a Commissioner question about employee overtime.

This e-mail will be included in the 4-24-19 Board Book.

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