

**READING MUNICIPAL  
LIGHT DEPARTMENT**

**BOARD OF COMMISSIONERS**

**REGULAR SESSION**

**THURSDAY, SEPTEMBER 20, 2018**

APPROVAL OF BOARD MINUTES  
JUNE 21, 2018 AND JULY 19, 2018  
ATTACHMENT 1

**READING MUNICIPAL LIGHT DEPARTMENT  
BOARD OF COMMISSIONERS MEETING  
230 Ash Street  
Reading, MA 01867  
June 21, 2018**

Start Time of Regular Session: 7:30 p.m.

End Time of Regular Session: 9:20 p.m.

**Commissioners:**

Dave Hennessy, Chair

Dave Talbot, Vice Chair

Tom O'Rourke, Commissioner-Secretary Pro Tem

John Stempeck, Commissioner

Philip B. Pacino, Commissioner

**Staff:**

Coleen O'Brien, General Manager

Hamid Jaffari, Director of Engineering and Operations

Jane Parenteau, Director of Integrated Resources

Wendy Markiewicz, Director of Business, Finance and  
Technology

Joyce Mulvaney, Communications Manager

Ben Thivierge, Resource Specialist

Tracy Schultz, Executive Assistant

**Citizens Advisory Board:**

Neil Cohen, Member

**Select Board Liaison:**

Vanessa Alvarado

**Call Meeting to Order**

Chair Hennessy called the meeting to order and 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. Chair Hennessy then read the RMLD's Code of Conduct.

**Public Comment**

Chair Hennessy welcomed Mr. Cohen and Ms. Alvarado, neither of whom had comments. There was no public comment.

Chair Hennessy explained that Vice Chair Talbot was participating remotely due to travel, and that all votes would need to be roll call. Vice Chair Talbot greeted the Commission and apologized for his physical absence.

**Approval of Board Minutes (Attachment 1)**

Mr. Pacino made a motion, seconded by Mr. Stempeck, to approve the April 5, 2018 and April 17, 2018 minutes, per the recommendation of the General Manager.

Chair Hennessy called for a poll of the vote: Mr. O'Rourke: Aye; Mr. Pacino: Aye; Chair Hennessy: Aye; Mr. Stempeck: Aye; Mr. Talbot: Aye.

**Motion Carried.**

**5:0:0.**

**RMLD Board Member Attendance at Citizens' Advisory Board Meetings Report – Mr. Pacino**

Mr. Pacino stated that he attended the CAB meeting on May 16<sup>th</sup>. The financial report, reliability and organizational study updates, and NEPPA conference were discussed. Mr. Pacino stated that he attended the Town of Reading Audit Committee meeting on June 13<sup>th</sup>. The Committee recommended that the audit be accepted as presented. There was no management letter. On June 20<sup>th</sup> Mr. Pacino attended the Citizens' Advisory Board meeting in Mr. Stempeck's place. The CAB reviewed minutes and discussed OSHA compliance and the new RMLD website.

**General Manager's Report – Ms. O'Brien**

**Review of Board Policies**

Ms. O'Brien explained that RMLD is in the process of reviewing and updating its policies. To date, 12 have been completed, and five are being presented to the Board for review tonight. Ms. O'Brien stated that she would provide an overview of the changes for each policy. Policy No. 7 Sick Time gives more responsibility to the General Manager, the Department Managers, and Human Resources for ensuring that there is no abuse of sick time. It

## **General Manager's Report – Ms. O'Brien**

### **Review of Board Policies**

provides for monitoring for abuse of sick time and time off according to legislation and RMLD's collective bargaining agreements.

Ms. O'Brien explained that Policy No. 9 Section 2 Procurement policy has updated threshold values due to changes in M.G.L. Chapter 164 §56D.

Policy No. 17 Tuition Reimbursement now outlines approved areas of study and clarifies eligible expenses. Ms. O'Brien explained that some schools are now allowing students to defer tuition payment until after the course is completed if the employer has a tuition reimbursement program. Policy changes now allow for that. Mr. Stempeck asked if professional education courses were included. Ms. O'Brien explained continuing education credits are considered training and are processed as expenses. Mr. O'Rourke suggested adding a line for supervisor signature on the reimbursement form. All agreed this should be done.

Ms. O'Brien stated that NERC cybersecurity requirements for compliance were added to Policy No. 27 Use of RMLD Information Systems. Mr. Stempeck suggested adding language to Section D. Board of Commissioners to allow the Board to send pertinent data and articles to each other. Mr. Pacino suggested using the word "educational." Mr. O'Rourke suggested changing "When in doubt: don't" to "When in doubt: ask." Mr. O'Rourke mentioned that policy provisions for data protection may be something to consider in the future.

Mr. Pacino made a motion, seconded by Mr. Stempeck, that the Board approve the changes to RMLD Policy No. 27 Use of RMLD Information Systems, with the changes in Section II Item D that the word 'educational,' be added before 'procedural or housekeeping matters' and in Section III the last item in Section B replace the word 'don't' with 'ask.'

Chair Hennessy called for a poll of the vote: Mr. O'Rourke: Aye; Chair Hennessy: Aye; Mr. Pacino: Aye; Mr. Stempeck; Aye; Mr. Talbot: Aye.

**Motion Carried.**

**5:0:0.**

Mr. Pacino made a motion, seconded by Mr. O'Rourke, that the Board approve the changes to Policy No. 17 Tuition Reimbursement, with the change to Attachment A: adding a line for Supervisor signature.

Chair Hennessy called for a poll of the vote: Mr. O'Rourke: Aye; Chair Hennessy: Aye; Mr. Pacino: Aye; Mr. Stempeck; Aye; Mr. Talbot: Aye.

**Motion Carried.**

**5:0:0.**

Ms. O'Brien stated that the last policy for review is Policy No. 31 RMLD Vehicle Use. An insurance company accident form is in every RMLD vehicle. Instructions were added to the policy on immediately notifying a supervisor after certain types of accidents occur. Hands free device use was clarified. Touching a phone or electronic device is prohibited when driving.

Mr. Pacino made a motion, seconded by Mr. Stempeck, that the Board approve the changes to Policy No. 7 Sick Leave Benefits, No. 9 Procurement, and No. 31 Vehicle Use, on the recommendation of the General Manager.

Chair Hennessy called for a poll of the vote: Mr. O'Rourke: Aye; Chair Hennessy: Aye; Mr. Pacino: Aye; Mr. Stempeck; Aye; Mr. Talbot: Aye.

**Motion Carried.**

**5:0:0.**

Ms. O'Brien announced that state entities must be OSHA compliant by February 13, 2019. A trainer will be coming in to RMLD for a meeting with the entire company. RMLD will be conducting a two-day self-audit at the end of the summer. RMLD already follows the APPA Safety Manual which is OSHA based.

**Integrated Resources Division – Ms. Parenteau  
Power Supply Report – April 2018 (Attachment 3)**

Ms. Parenteau announced that she would be reporting on April 2018 purchase power and began with capacity requirements and imbedded costs from 2014 to 2018. In 2014 RMLD's April capacity requirement was 215,566 kW and the average cost per kW was \$10.25. In 2018 RMLD's April capacity requirement was 222,431 kW and there was a significant increase to cost: \$13.56 per kW. This was due to an increase in NEMA's capacity zone, which resulted in a 16 percent increase for the capacity year (which runs from June 1 to May 31). This is a \$3 million annual cost increase. Capacity is based on the summer peak from the previous year. Ms. Parenteau announced that Ms. Mulvaney has started the Shred the Peak campaign. RMLD has a list of 2,000 customers who have opted in for Shred the Peak notifications. RMLD issues tweets and e-mails when anticipating peak usage. Chair Hennessy asked how people can participate. Ms. Parenteau explained that customers can sign up on RMLD's website.

Ms. Parenteau then discussed purchased power and imbedded costs for fuel. April 2018 purchases, which are somewhat reflective of sales, were down significantly. Despite that, RMLD's average cost of power is still under five cents. Ms. Parenteau then discussed transmission costs over the last five-years, from 2014 to 2018. 90 percent of transmission costs are through ISO New England which provides regional network service. Costs are socialized throughout New England and are based on monthly peak. RMLD's transmission providers are National Grid and Eversource. Costs are based on monthly peak and regional network charges and are forecasted to increase annually.

**Electric Vehicle Pilot Program – Mr. Thivierge (Attachment 2)**

Mr. Thivierge explained that RMLD has started an electric vehicle (EV) pilot program for the summer called 'Electrify Your Ride'. Mr. Thivierge highlighted the environmental and savings benefits of EVs and explained that there are three types of electric vehicles: plug-in electric hybrid (gas and electric, with a battery capacity less than 10 kWh), plug-in electric hybrid plus (gas and electric, with a battery capacity greater than 10 kWh), and battery electric vehicles (completely electric). Mr. Thivierge explained that RMLD is offering a \$1,000 rebate for the purchase or lease of new plug-in electric hybrid plus vehicles and a \$1,500 rebate for the purchase or lease of new or used battery electric vehicles. RMLD also has a residential EV charging station rebate for 100 percent of equipment costs (up to \$500) for the home installation of level 2 networked ('smart') charging stations.

Vice Chair Talbot asked how many other light departments have similar programs? Mr. Thivierge replied that RMLD is the only municipal in Massachusetts offering a rebate for the purchase or lease of a car.

Ms. O'Brien explained that less people are coming in for solar. Ms. Parenteau stated that the rebate budget is \$235,000 and \$40,000 has been allocated to the EV program.

Vice Chair Talbot stated that a collaboration with the Town of Reading could benefit both sides. The Town and RMLD should think creatively about future technologies. Mr. Pacino added that he will soon be purchasing a new car and stated that zoning by-laws need to be tweaked.

Ms. Alvarado stated that is a timely idea since Select Board is beginning to discuss Master Plan and the Zoning Board is updating their guidelines. Chair Hennessy asked if there's anything RMLD can do. Ms. O'Brien told Ms. Alvarado that RMLD can provide the Select board with specs, guidelines, and language regarding charging stations.

Ms. O'Brien stated that RMLD is developing a program to approach retailers in strategically selected locations about installing EV chargers. Chair Hennessy asked if the EV chargers will be RMLD owned. Ms. O'Brien replied that only RMLD can sell electricity within its service territory. Unless a company installs a meter and provides charging to its employees for free the electricity must be sold by RMLD.

Mr. Thivierge continued his presentation. RMLD's goal is to have 30 approved vehicle applications in five months and is therefore aiming for six per month. Six applications have been approved in June so far. Educational articles will be running in local newspapers and online on The Patch and the RMLD website. Information will be provided on billing envelopes and through e-mails to customers. RMLD will be at the Wilmington Farmer's Market on Sunday, July 15 to showcase and allow customers to test drive electric vehicles.

### **Community Engagement – Ms. Mulvaney**

Ms. Mulvaney announced that RMLD's new website launched on June 1<sup>st</sup>. Content has been reorganized and the design has been cleaned up. The website is now mobile friendly. It's a responsive design so it adjusts to any screen. There will be an outage map. There are separate sections for residential and commercial customers. RMLD looked at analytics from its previous website and the most selected are now quick links. The News and Announcements section highlights current events and campaigns. Ms. O'Brien added that there is a calendar showing upcoming Board and CAB meetings.

Mr. Talbot disconnected from the meeting.

### **Financial Report-April 2018 – Ms. Markiewicz - (Attachment 4)**

Ms. Markiewicz announced that she would be reporting on the first ten months of the fiscal year, ending on April 30, 2018. Ms. Markiewicz stated that a FERC accounting trainer stated that the industry standard is to have three to four months of operating cash available. RMLD targeting two months understanding that there is reserve available if needed. Ms. Markiewicz then presented a summary of plant. As of April, total capital assets were \$77.5 million. Of that \$77.5 million, \$52.5 million is infrastructure, which makes up the bulk of plant. Structures and improvements total \$10.8 million, equipment and furnishings total \$12.9 million (computer hardware and software, office furniture, fleet, tools, GIS, SCADA, fiber), and land totals \$1.3 million. Ms. Markiewicz then presented a plant comparison over the last five-years. In 2014 structures and improvements started at \$6.4 million and has gone up to \$10.8 million. Equipment and furnishings has stayed flat because RMLD hasn't put a lot of money into office equipment or fleet. Infrastructure started at \$49.5 million and has increased to \$52.5 million.

Ms. Markiewicz stated that year-to-date operating and maintenance expenses are on target for the budget. May looks like it will go over budget but the impact from the March storms does not seem to be as dramatic as anticipated.

### **Engineering and Operations Report – April 2018 - Mr. Jaffari (Attachment 5)**

Mr. Jaffari stated that year-to-date capital spending totals \$5,007,896. \$7,685,521 was budgeted for Fiscal Year 2018 so \$2,677,625 remains. Mr. Jaffari stated that routine maintenance is going well and that RMLD is monitoring the tree-trimming program to ensure that it doesn't go over the amount budgeted. 843 spans have been cut through April. There were no substation hot spots. Three underground subdivisions were completed in April and eight more are in progress. Lynnfield has 20 pending transfers and one pending pull pole. North Reading has 10 transfers and 49 pull poles. Reading has 27 transfers and 54 pull poles. Wilmington has 35 transfers and four pull poles. These numbers will be substantially higher in May and June because a lot of upgrades have been completed. Reliability indices are well below the national and regional averages for outages. Mr. Jaffari announced that all Fiscal Year 2018 projects are completed except for the parking lot. There was a round of applause. Mr. Jaffari stated that Fiscal Year 2019 projects are being started ahead of schedule.

### **General Discussion**

Mr. Pacino suggested that the Sub-Committee Payment to the Town of Reading be listed as an agenda item for the next Board meeting and future meeting dates were discussed.

### **Adjournment**

Mr. Stempeck made a motion, seconded by Mr. O'Rourke, that the Board go into Executive Session to consider the purchase of real property and return to Regular Session for the sole purpose of adjournment.

### **Motion Carried.**

**4:0:0.**

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

Tom O'Rourke, Secretary Pro Tem  
RMLD Board of Commissioners

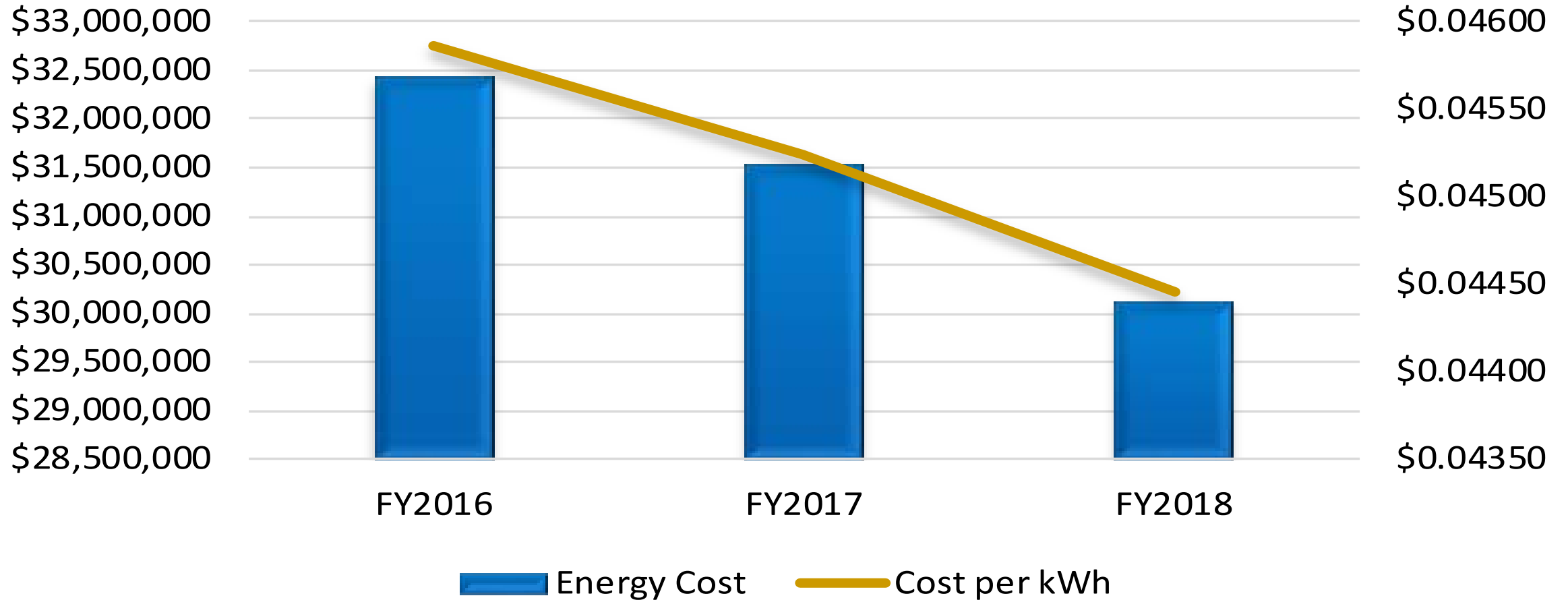
POWER SUPPLY REPORT  
JUNE AND JULY 2018  
ATTACHMENT 2

# Board of Commissioners Meeting September 20, 2018

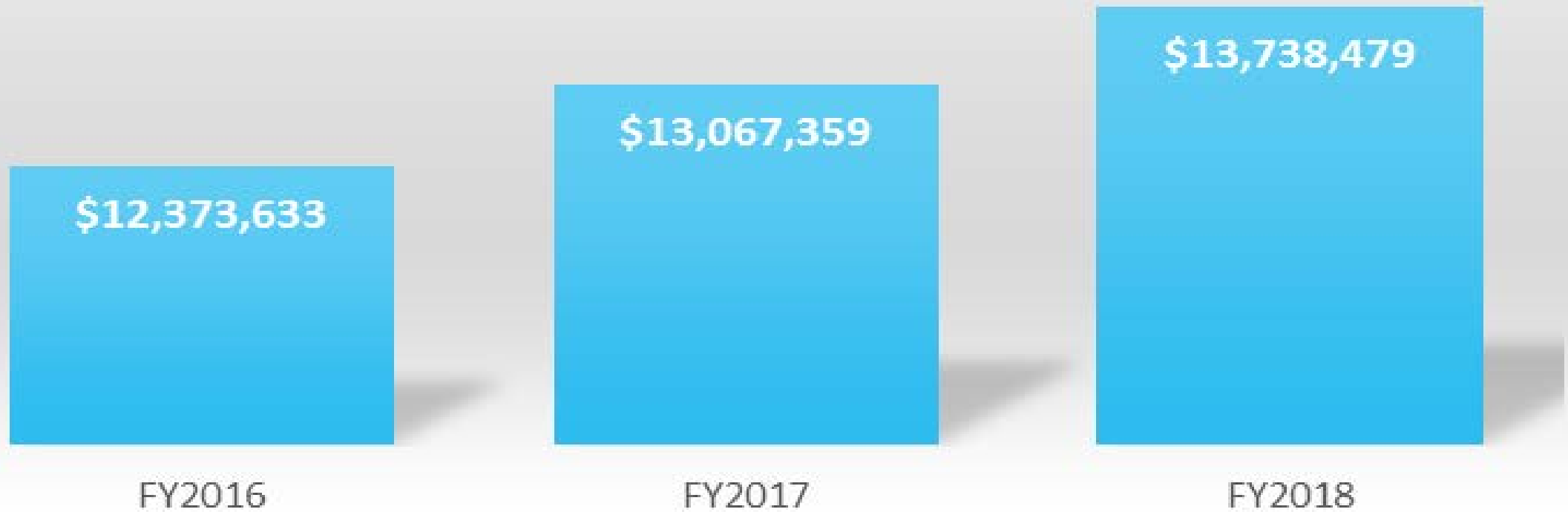
Jane Parenteau, Director of Integrated Resources  
Reporting for June & July, 2018



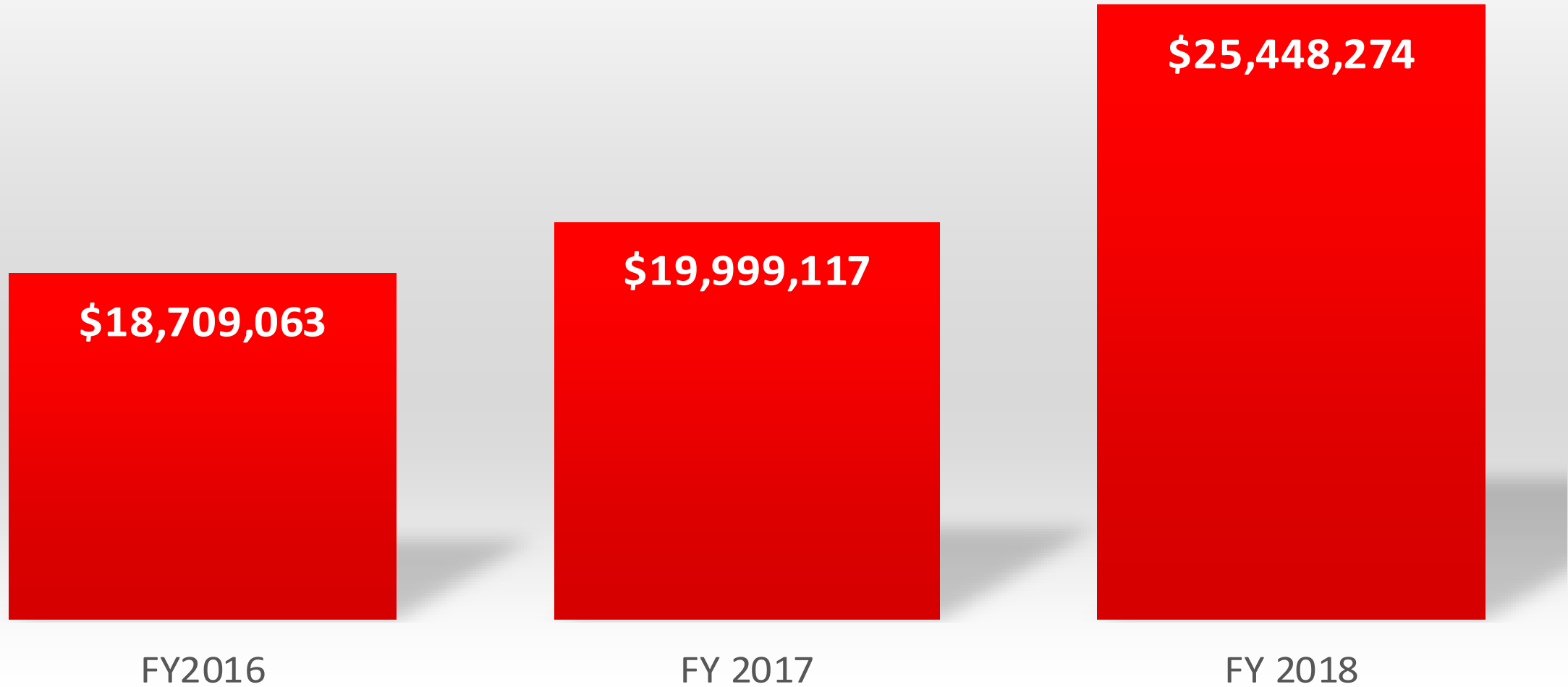
# Energy Costs and Cost per kWh FY2016 - FY2018



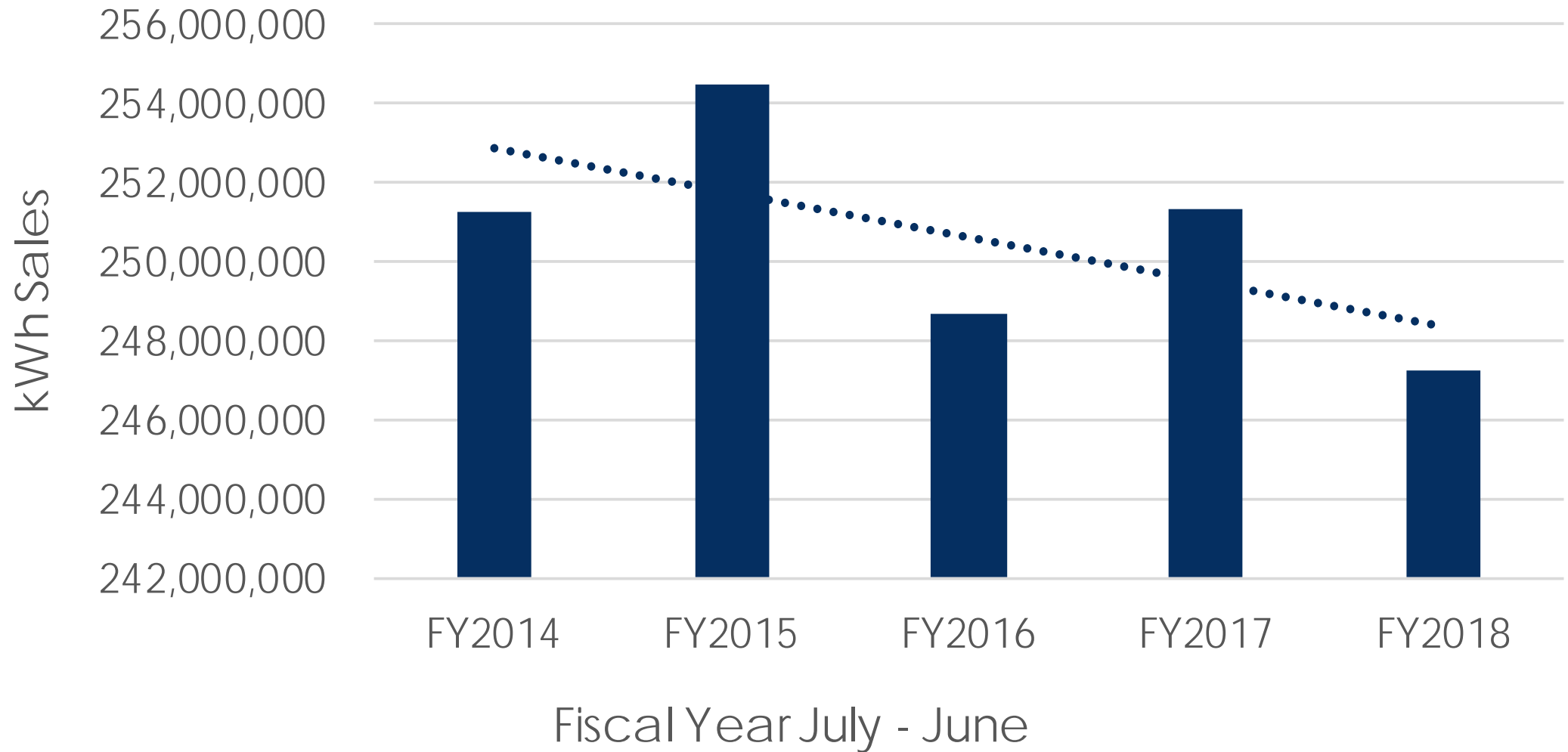
# Transmission Cost FY2016-FY2018



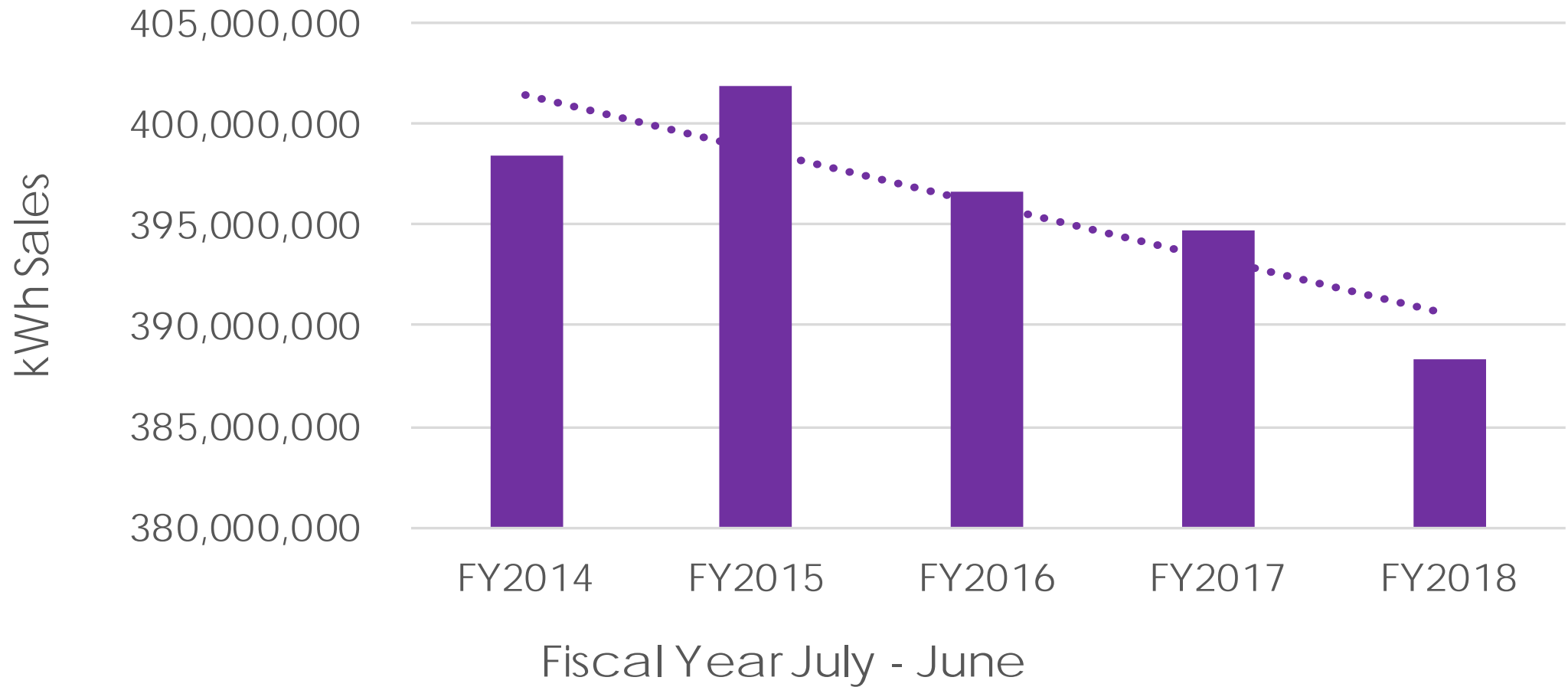
# Capacity Costs FY2016 - FY2018



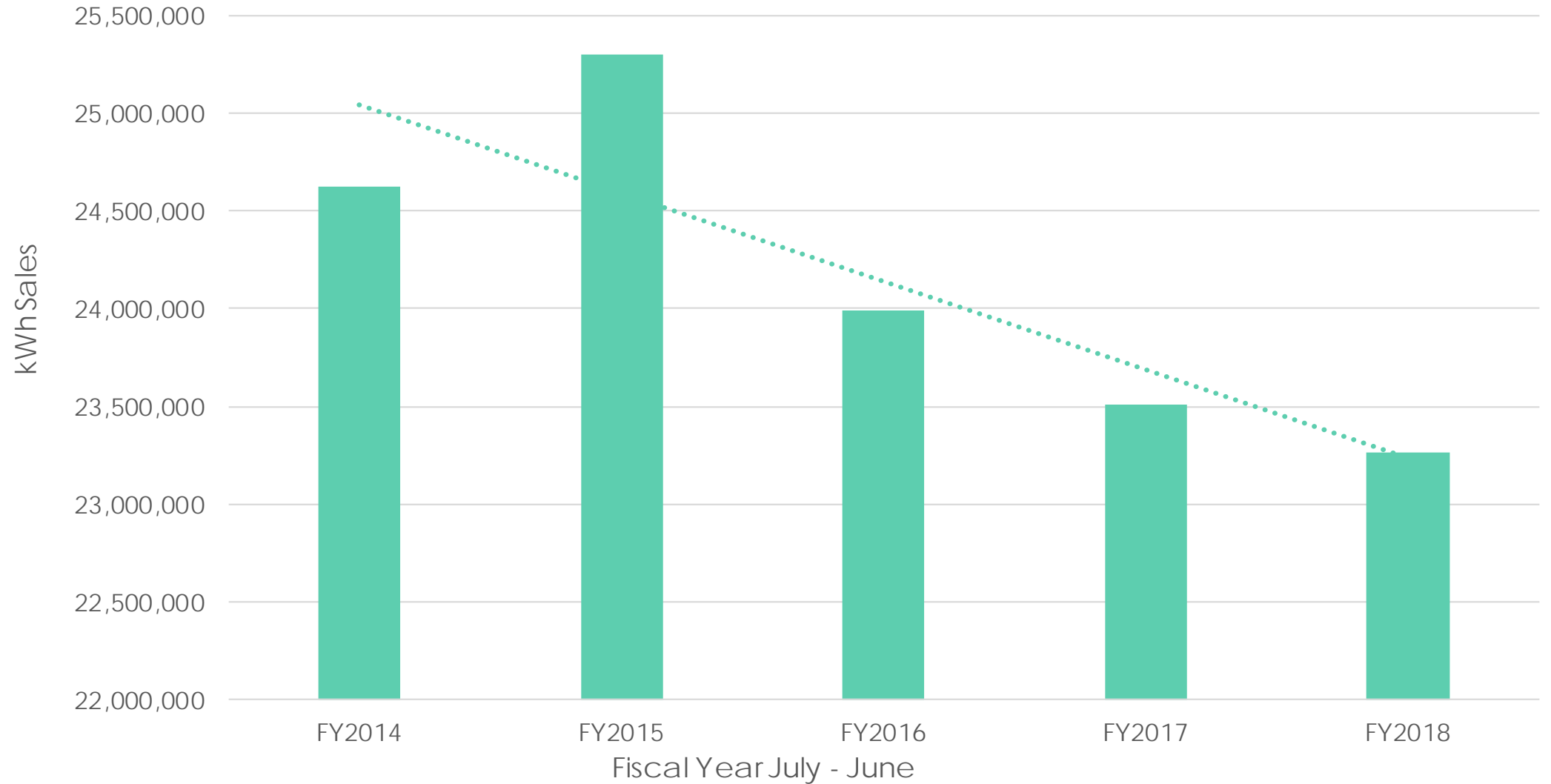
# Residential kWh Sales FY2014 - 2018



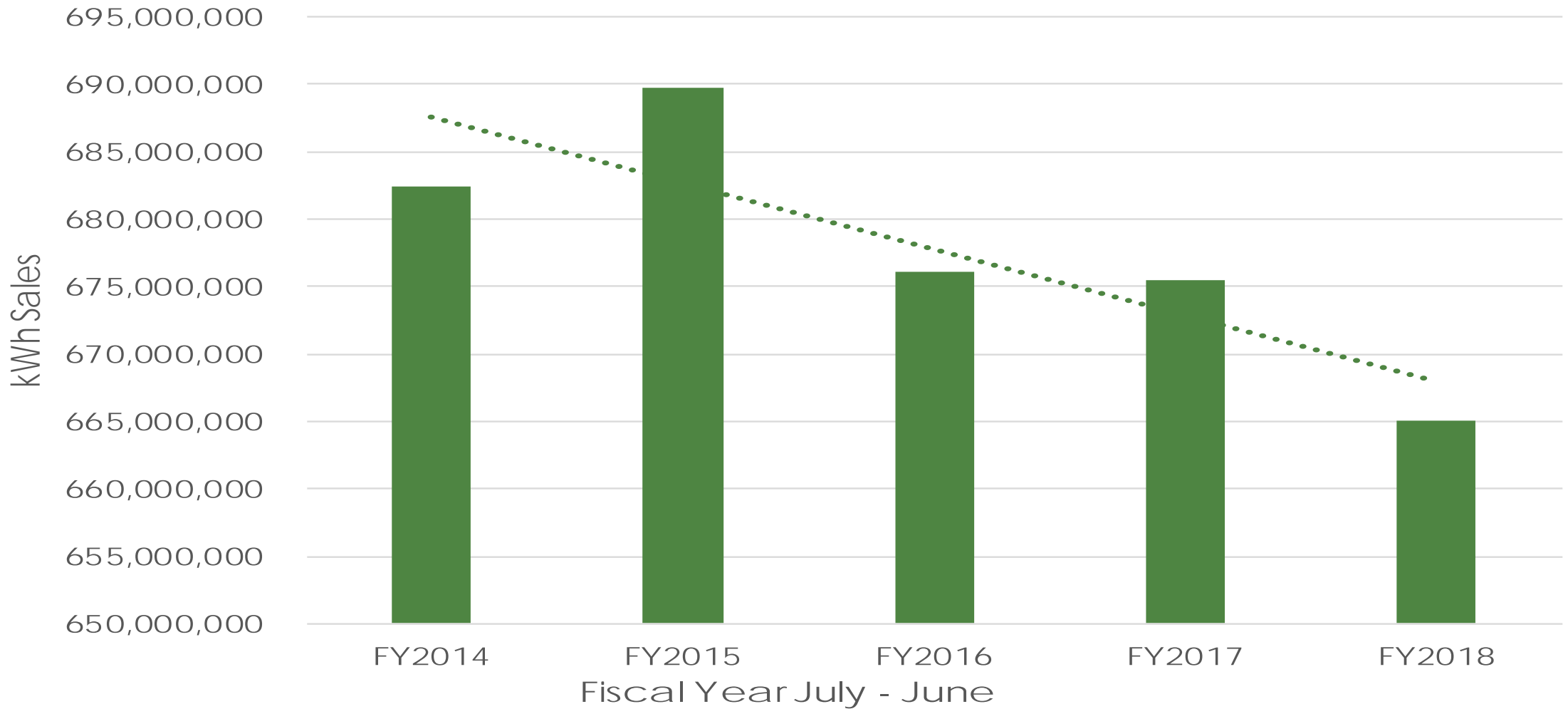
# Industrial kWh Sales FY2014 - FY2018





# Municipal Buildings & Public Schools FY2014- FY2018



## Total kWh Sales all Customer Classes FY2014 - FY2018



To: Coleen O'Brien

From:  Maureen McHugh, Jane Parenteau 

Date: August 31, 2018

Subject: Purchase Power Summary –June, 2018

Energy Services Division (ESD) has completed the Purchase Power Summary for the month of June, 2018.

**ENERGY**

The RMLD's total metered load for the month was 57,931,718, which is a 5.97% decrease from the June, 2017 figures.

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

**Table 1**

Resource	Amount of Energy (kWh)	Cost of Energy (\$/Mwh)	% of Total Energy	Total \$ Costs	\$ as a %
Millstone #3	3,567,431	\$6.38	6.07%	\$22,754	1.15%
Seabrook	5,718,567	\$5.92	9.73%	\$33,854	1.71%
Stonybrook Intermediate	1,004,192	\$35.24	1.71%	\$35,383	1.78%
Shell Energy	9,909,600	\$57.52	16.86%	\$569,980	28.73%
NYPA	1,771,368	\$5.38	3.01%	\$9,538	0.48%
Nextera	6,623,000	\$33.45	11.27%	\$221,541	11.17%
ISO Interchange	13,260,435	\$29.95	22.55%	\$397,123	20.02%
Nema Congestion	-	\$0.00	0.00%	-\$86,015	-4.34%
Coop Resales	15,718	\$148.80	0.03%	\$2,339	0.12%
EDF	3,360,000	\$26.53	5.71%	\$89,133	4.49%
Hydro Projects*	1,401,396	\$66.19	2.38%	\$92,760	4.68%
Braintree Watson Unit	262,846	\$90.33	0.45%	\$23,742	1.20%
Saddleback/Jericho Wind	1,434,026	\$78.92	2.44%	\$113,171	5.70%
Community Solar	845,662	\$73.16	1.44%	\$61,872	3.12%
Exelon	9,475,200	\$38.88	16.12%	\$368,357	18.57%
Stonybrook Peaking	143,250	\$199.00	0.24%	\$28,507	1.44%
Monthly Total	58,792,691	\$33.75	100.00%	\$1,984,037	100.00%

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

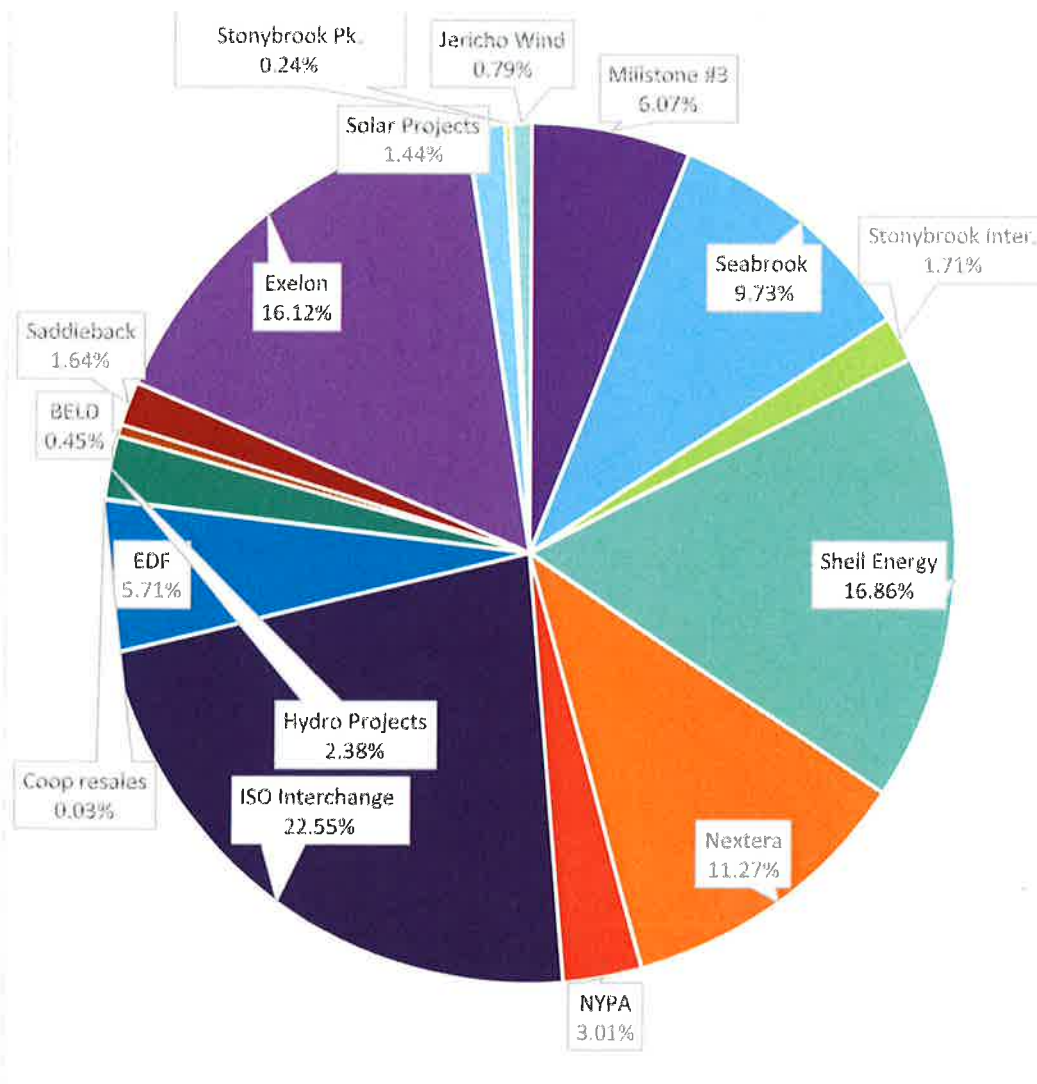


Table 2 breaks down the ISO interchange between the DA LMP Settlement and the RT Net Energy for the month of June, 2018.

Table 2			
Resource	Amount of Energy (kWh)	Cost of Energy (\$/Mwh)	% of Total Energy
ISO DA LMP * Settlement	19,337,251	\$29.41	32.89%
RT Net Energy ** Settlement	(6,076,816)	\$35.82	-10.34%
ISO Interchange (subtotal)	13,260,435	\$33.40	22.55%

\* Independent System Operator Day-Ahead Locational Marginal Price

**JUNE 2018 ENERGY BY RESOURCE**



## CAPACITY

The RMLD hit a demand of 135,950 kW, which occurred on June 18, at 5 pm. The RMLD's monthly UCAP requirement for June, 2018 was 233,627 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	24.76	\$122,550	5.71%
Seabrook	7,914	18.89	\$149,495	6.97%
Stonybrook Peaking	24,980	2.33	\$58,233	2.71%
Stonybrook CC	42,925	8.20	\$351,959	16.41%
NYPA	0	0.00	-\$41,063	-1.91%
Hydro Quebec	0	0	-\$39,856	-1.86%
Braintree Watson Unit	0	0.00	\$12,343	0.58%
ISO-NE Supply Auction	152,858	10.02	\$1,531,588	71.39%
<b>Total</b>	<b>233,627</b>	<b>\$9.18</b>	<b>\$2,145,249</b>	<b>100.00%</b>

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

**Table 4**

Resource	Energy	Capacity	Total cost	% of Total Cost	Amt of Energy (kWh)	Cost of Power (\$/kWh)
Millstone #3	\$22,754	\$122,550	\$145,304	3.52%	3,567,431	0.0407
Seabrook	\$33,854	\$149,495	\$183,349	4.44%	5,718,567	0.0321
Stonybrook Intermediate	\$35,383	\$351,959	\$387,342	9.38%	1,004,192	0.3857
Hydro Quebec	\$0	-\$39,856	-\$39,856	-0.97%	-	0.0000
Shell Energy	\$569,980	\$0	\$569,980	13.80%	9,909,600	0.0575
NextEra/EDF	\$221,541	\$0	\$221,541	5.37%	6,623,000	0.0335
* NYPA	\$9,538	-\$41,063	-\$31,525	-0.76%	1,771,368	-0.0178
ISO Interchange	\$397,123	\$1,531,588	\$1,928,711	46.71%	13,260,435	0.1454
Nema Congestion	-\$86,015	\$0	-\$86,015	-2.08%	-	0.0000
EDF	\$89,133	\$0	\$89,133	2.16%	3,360,000	0.0265
* Hydro Projects	\$92,760	\$0	\$92,760	2.25%	1,401,396	0.0662
Braintree Watson Unit	\$23,742	\$12,343	\$36,085	0.87%	262,846	0.1373
* Saddleback/Jericho	\$113,171	\$0	\$113,171	2.74%	1,434,026	0.0789
* Burlington & Community Solar	\$61,872	\$0	\$61,872	1.50%	845,662	0.0732
Coop Resales	\$2,339	\$0	\$2,339	0.06%	15,718	0.1488
Exelon Energy	\$368,357	\$0	\$368,357	8.92%	9,475,200	0.0389
Stonybrook Peaking	\$28,507	\$58,233	\$86,740	2.10%	143,250	0.6055
<b>Monthly Total</b>	<b>\$1,984,037</b>	<b>\$2,145,249</b>	<b>\$4,129,286</b>	<b>100.00%</b>	<b>58,792,691</b>	<b>0.0702</b>

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

## RENEWABLE ENERGY CERTIFICATES (RECs)

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



<b>REC Classification</b>	<b>RECs Projected</b>	<b>RECs Sold</b>	<b>BID \$</b>	<b>Revenue Potential</b>	<b>Revenue Received</b>
CT 1	8,936	1,726	12.50	\$111,694	\$21,575
MA 1	2,398	459	12.60	\$30,210	\$5,783
MA/CT/RI/NH 1	15,909	2,988	12.70	\$202,044	\$37,948
MA/RI/NH 1	8,588	1,624	12.70	\$109,068	\$20,625
MA 2	4,908	940	26.00	\$127,608	\$24,440
<b>Totals</b>	<b>40,738</b>	<b>7,737</b>		<b>\$580,623</b>	<b>\$110,371</b>

## TRANSMISSION

The RMLD's total transmission costs for the month of June, 2018 were \$1,106,831. This is an increase of 19.75% from the May transmission cost of \$924,280. In June, 2017 the transmission costs were \$1,305,840.

	<b>Current Month</b>	<b>Last Month</b>	<b>Last Year</b>
Peak Demand (kW)	135,950	107,880	155,746
Energy (kWh)	58,792,691	54,850,361	60,903,283
Energy (\$)	\$1,984,037	\$1,845,175	\$2,520,199
Capacity (\$)	\$2,145,249	\$2,135,703	\$2,379,893
Transmission(\$)	\$1,106,831	\$924,280	\$1,305,840
<b>Total</b>	<b>\$5,236,117</b>	<b>\$4,905,158</b>	<b>\$6,205,931</b>

To: Coleen O'Brien

From:  Maureen McHugh, Jane Parenteau 

Date: September 10, 2018

Subject: Purchase Power Summary –July, 2018

Energy Services Division (ESD) has completed the Purchase Power Summary for the month of July, 2018.

**ENERGY**

The RMLD's total metered load for the month was 71,666745, which is a 8.74% increase from the July, 2017 figures.

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

**Table 1**

Resource	Amount of Energy (kWh)	Cost of Energy (\$/Mwh)	% of Total Energy	Total \$ Costs	\$ as a %
Millstone #3	3,656,187	\$6.38	5.03%	\$23,320	0.82%
Seabrook	5,905,203	\$5.92	8.13%	\$34,959	1.23%
Stonybrook Intermediate	2,688,020	\$34.42	3.70%	\$92,520	3.26%
Shell Energy	13,098,600	\$57.70	18.03%	\$755,749	26.60%
NYPA	2,046,901	\$5.25	2.82%	\$10,745	0.38%
Nextera	3,550,000	\$38.96	4.89%	\$138,302	4.87%
ISO Interchange	15,789,460	\$35.24	21.74%	\$556,434	19.58%
Nema Congestion	-	\$0.00	0.00%	\$548	0.02%
Coop Resales	6,110	\$181.51	0.01%	\$1,109	0.04%
EDF	8,272,800	\$36.40	11.39%	\$301,170	10.60%
Hydro Projects*	2,008,171	\$69.35	2.76%	\$139,271	4.90%
Braintree Watson Unit	351,111	\$62.11	0.48%	\$21,806	0.77%
Saddleback/Jericho Wind	1,070,934	\$86.38	1.47%	\$92,509	3.26%
Community Solar	965,215	\$73.10	1.33%	\$70,561	2.48%
Exelon	13,111,200	\$44.15	18.05%	\$578,815	20.37%
Stonybrook Peaking	118,581	\$196.98	0.16%	\$23,358	0.82%
Monthly Total	72,638,493	\$39.11	100.00%	\$2,841,176	100.00%

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

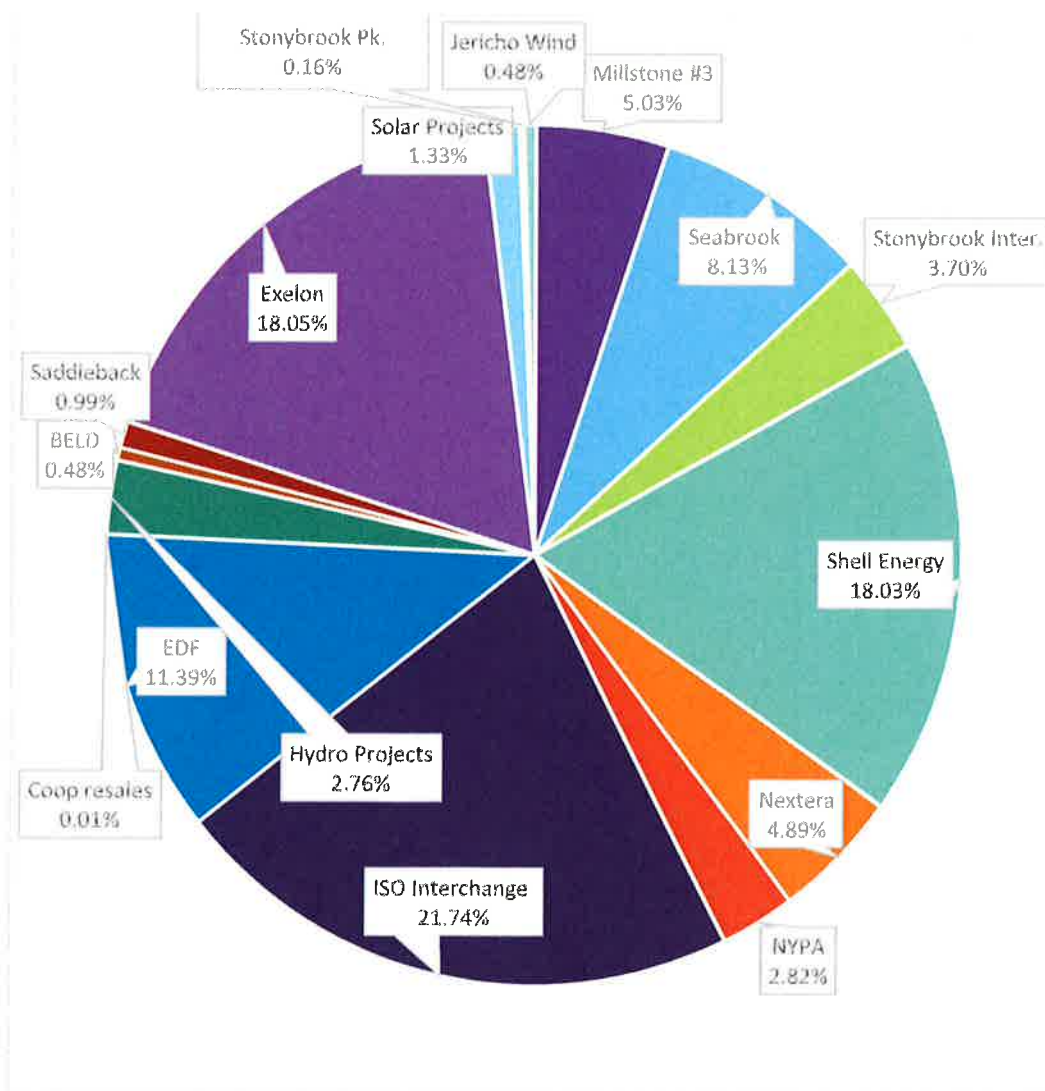
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**Table 2**

Resource	Amount of Energy (kWh)	Cost of Energy (\$/Mwh)	% of Total Energy
ISO DA LMP * Settlement	22,093,167	\$35.58	30.42%
RT Net Energy ** Settlement	(6,303,708)	\$36.26	-8.68%
ISO Interchange (subtotal)	15,789,460	\$35.24	21.74%

\* Independent System Operator Day-Ahead Locational Marginal Price

**JULY 2018 ENERGY BY RESOURCE**



## CAPACITY

The RMLD hit a demand of 152,472 kW, which occurred on July 3, at 3 pm. The RMLD's monthly UCAP requirement for July, 2018 was 233,627 kW.

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

**Table 3**

Source	Amount (kWs)	Cost (\$/kW-month)	Total Cost \$	% of Total Cost
Millstone #3	4,950	22.75	\$112,623	5.49%
Seabrook	7,914	19.81	\$156,747	7.65%
Stonybrook Peaking	24,980	1.98	\$49,550	2.42%
Stonybrook CC	42,925	3.34	\$143,515	7.00%
NYP&A	0	0.00	-\$16,011	-0.78%
Hydro Quebec	0	0	-\$39,605	-1.93%
Braintree Watson Unit	0	0.00	\$113,603	5.54%
ISO-NE Supply Auction	152,858	10.00	\$1,529,165	74.61%
<b>Total</b>	<b>233,627</b>	<b>\$8.77</b>	<b>\$2,049,586</b>	<b>100.00%</b>

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

**Table 4**

Resource	Energy	Capacity	Total cost	% of Total Cost	Amt of Energy (kWh)	Cost of Power (\$/kWh)
Millstone #3	\$23,320	\$112,623	\$135,943	2.78%	3,656,187	0.0372
Seabrook	\$34,959	\$156,747	\$191,706	3.92%	5,905,203	0.0325
Stonybrook Intermediate	\$92,520	\$143,515	\$236,034	4.83%	2,688,020	0.0878
Hydro Quebec	\$0	-\$39,605	-\$39,605	-0.81%	-	0.0000
Shell Energy	\$755,749	\$0	\$755,749	15.45%	13,098,600	0.0577
NextEra/EDF	\$138,302	\$0	\$138,302	2.83%	3,550,000	0.0390
* NYP&A	\$10,745	-\$16,011	-\$5,266	-0.11%	2,046,901	-0.0026
ISO Interchange	\$556,434	\$1,529,165	\$2,085,599	42.64%	15,789,460	0.1321
Nema Congestion	\$548	\$0	\$548	0.01%	-	0.0000
EDF	\$301,170	\$0	\$301,170	6.16%	8,272,800	0.0364
* Hydro Projects	\$139,271	\$0	\$139,271	2.85%	2,008,171	0.0694
Braintree Watson Unit	\$21,806	\$113,603	\$135,409	2.77%	351,111	0.3857
* Saddleback/Jericho	\$92,509	\$0	\$92,509	1.89%	1,070,934	0.0864
* Burlington & Community Solar	\$70,561	\$0	\$70,561	1.44%	965,215	0.0731
Coop Resales	\$1,109	\$0	\$1,109	0.02%	6,110	0.1815
Exelon Energy	\$578,815	\$0	\$578,815	11.83%	13,111,200	0.0441
Stonybrook Peaking	\$23,358	\$49,550	\$72,907	1.49%	118,581	0.6148
<b>Monthly Total</b>	<b>\$2,841,176</b>	<b>\$2,049,586</b>	<b>\$4,890,762</b>	<b>100.00%</b>	<b>72,638,493</b>	<b>0.0673</b>

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

## RENEWABLE ENERGY CERTIFICATES (RECs)

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

**Table 5**  
**RECs Summary**  
**2018**

<b>REC Classification</b>	<b>RECs Projected</b>	<b>RECs Sold</b>	<b>BID \$</b>	<b>Revenue Potential</b>	<b>Revenue Received</b>
CT 1	9,229	1,726	12.50	\$115,356	\$21,575
MA 1	2,455	459	12.60	\$30,928	\$5,783
MA/CT/RI/NH 1	16,631	2,988	12.70	\$211,214	\$37,948
MA/RI/NH 1	8,937	1,624	12.70	\$113,500	\$20,625
MA 2	5,022	940	26.00	\$130,572	\$24,440
<b>Totals</b>	<b>42,273</b>	<b>7,737</b>		<b>\$601,570</b>	<b>\$110,371</b>

## TRANSMISSION

The RMLD's total transmission costs for the month of July, 2018 were \$1,362,656. This is an increase of 23.11% from the June transmission cost of \$1,106,831. In July, 2017 the transmission costs were \$1,546,151.

**Table 6**

	<b>Current Month</b>	<b>Last Month</b>	<b>Last Year</b>
Peak Demand (kW)	152,472	135,950	145,294
Energy (kWh)	72,638,493	58,792,691	66,553,229
Energy (\$)	\$2,841,176	\$1,984,037	\$2,709,058
Capacity (\$)	\$2,049,586	\$2,145,249	\$2,081,717
Transmission(\$)	\$1,362,656	\$1,106,831	\$1,546,151
Total	\$6,253,418	\$5,236,117	\$6,336,927

ENGINEERING & OPERATIONS REPORT  
JUNE AND JULY 2018  
ATTACHMENT 3





# Engineering & Operations Report

RMLD Board of Commissioners Meeting  
September 20, 2018

June 2018 Reporting Period

Hamid Jaffari, Director of Engineering & Operations

# Engineering & Operations

## Capital Improvement Projects

Project #	DESCRIPTION	% COMPLETE	JUNE	YTD ACTUAL	BUDGETED	REMAINING BALANCE
100	Distributed Gas Generation Pilot (Demand Management)	100%		584,960	-	(584,960)
102	Pad-mount Switchgear Upgrade at Industrial Parks	25%	17,941	426,489	196,285	(230,204)
103	Grid Modernization and Optimization	On-going	145,68,3	567,081	227,183	(339,898)
105	New Wilmington Substation	6%	-48,922		650,000	650,000
106	Underground Facilities Upgrades (URDs, Manholes, etc.)	On-going	22,235	151,001	344,725	193,724
107	13.8kV Upgrade (Step-down Areas, etc.)	On-going	76,599	158,163	70,851	(87,312)
108	115 kV Transmission Line Upgrade	50%		144,546	95,098	(49,448)
109	35 kV Underground Cable Upgrade Station 4, 5 and RR ROW	33%	78,747	147,249	206,817	59,568
110	4W9 Getaway Replacement - Station 4	100%		131,611	-	(131,611)
111	Substation Equipment Upgrade	On-going		-	50,218	50,218
112	AMI Mesh Network Expansion	On-going	30,797	30,862	120,311	89,449
116	Transformers & Capacitors	On-going	904	445,732	560,500	114,768
117	Meter Purchases	On-going		15,963	60,000	44,037
125	GIS	100%	722	148,589	218,726	70,137
126	Communication Equipment (Fiber Optic)	On-going		49,000	214,629	165,630
130	Remote Terminal Unit (RTU) Replacement - Station 3	100%		27,164	-	(27,164)
131	LED Street Lights Upgrade - All Towns	100%	33,109	731,861	1,169,332	437,471
133	Station 3: Relay Upgrades and SCADA Integration	100%	2,031	29,549	76,103	46,554
137	Pole Line Upgrade - Woburn Street (West to Concord), W	75%	736	82,135	200,284	118,149
138	Station 3 Reactors	100%		316,215	561,347	245,132
175	Pole Replacement Program	On-going	11,906	92,805	209,000	116,195
458	Secondary and Main Replacement Program	On-going	437	80,271	222,285	142,014
various	New Service Installations (Residential/Commercial/Industrial)	On-going	11,248	142,143	155,936	13,793

# Engineering & Operations

## Routine Capital Construction

Description	JUNE	YTD
Pole Setting/Transfers	\$22,475	\$235,052
Overhead/Underground	\$35,540	\$353,983
Projects Assigned as Required	-	\$161,901
Pole Damage/Knockdowns- Some Reimbursable <ul style="list-style-type: none"> <li>• Work was done to repair or replace one (1) pole.</li> </ul>	\$468	\$96,761
Station Group	\$675	\$13,887
Hazmat/Oil Spills <ul style="list-style-type: none"> <li>• Concord Street, North Reading</li> </ul>	\$2,491	\$10,037
Porcelain Cutout Replacement Program	-	-
Lighting (Street Light Connections)	\$221	\$22,800
Storm Trouble	-	\$143,389
Underground Subdivisions (new construction) <ul style="list-style-type: none"> <li>• Nichols Street Extension, North Reading</li> </ul>	\$1,921	\$110,779
Animal Guard Installation	-	\$415
Miscellaneous Capital Costs <ul style="list-style-type: none"> <li>• First Light (survey/make-ready work), W</li> <li>• Boutwell Street, Wilmington</li> </ul>	\$4,732	\$211,106
<b>TOTAL</b>	<b><u>\$68,523</u></b>	<b><u>\$1,360,110</u></b>

# Facilities, IRD and IT Capital Projects/Purchases

	JUNE	ACTUAL YTD	FY18 BUDGET	REMAINING BALANCE
Facilities	\$191,458	\$408,917	\$657,000	\$248,083
Integrated Resources Division (IRD)	-	\$51,279	\$35,000	(\$16,279)
Information Technology (IT)	\$43,529	\$189,869	\$340,000	\$150,131

## TOTAL CAPITAL SPENDING YTD (All Divisions)

JUNE	YTD	FY18 BUDGET	REMAINING BALANCE
<b>\$687,683</b>	<b>\$6,513,565</b>	<b>\$7,685,521</b>	<b>\$1,171,956</b>

**Note:** All June/Year-end Capital figures are a draft of unaudited numbers.



# Routine Maintenance

## ► Transformer Replacement (through July 2018)

Pad mount 30.31%

Overhead 21.28%

## ► Pole Inspection (as of 9/7/2018)

235 poles have been replaced

188 of 235 transfers have been completed

## ► Inspection of Feeders (Jan – Sep 2018)

*Inspected Circuits: 3W5, 3W6, 3W7, 3W8, 3W13, 3W14, 3W15, 3W18, 4W4, 4W5, 4W6, 4W7, 4W9, 4W10, 4W16, 4W18, 4W24, 4W30, 5W4, 5W5, 5W6 (transfer), 5W8, 5W9*

## ► Manhole Inspection (through July 2018)

961 of 1,237 manholes have been inspected.

## ► Porcelain Cutout Replacement (through July 2018)

91% complete

242 remaining to be replaced



# Routine Maintenance

## (continued)

### ► Tree Trimming

June: 74 spans      YTD: 973 spans through June

### ► Substation Maintenance

Infrared Scanning – complete through August – no hot spots found

### ► Underground Subdivisions Upgrade

**Recent Completed:** Crestwood Estates (NR), Aspen Road (NR), Long Hill Lane (NR), Shasta Drive (NR), Lantern Lane, (NR), Cherokee Lane (W)

**In Progress:** Westover Drive (LF ), Greenbriar Drive (NR), Great Neck Drive (W), Gandalf Estates (W), Turner Drive (NR), Carriage Way (NR)

# Double Poles

➤ Ownership: 16,000 (approximately)

50% RMLD

50% Verizon

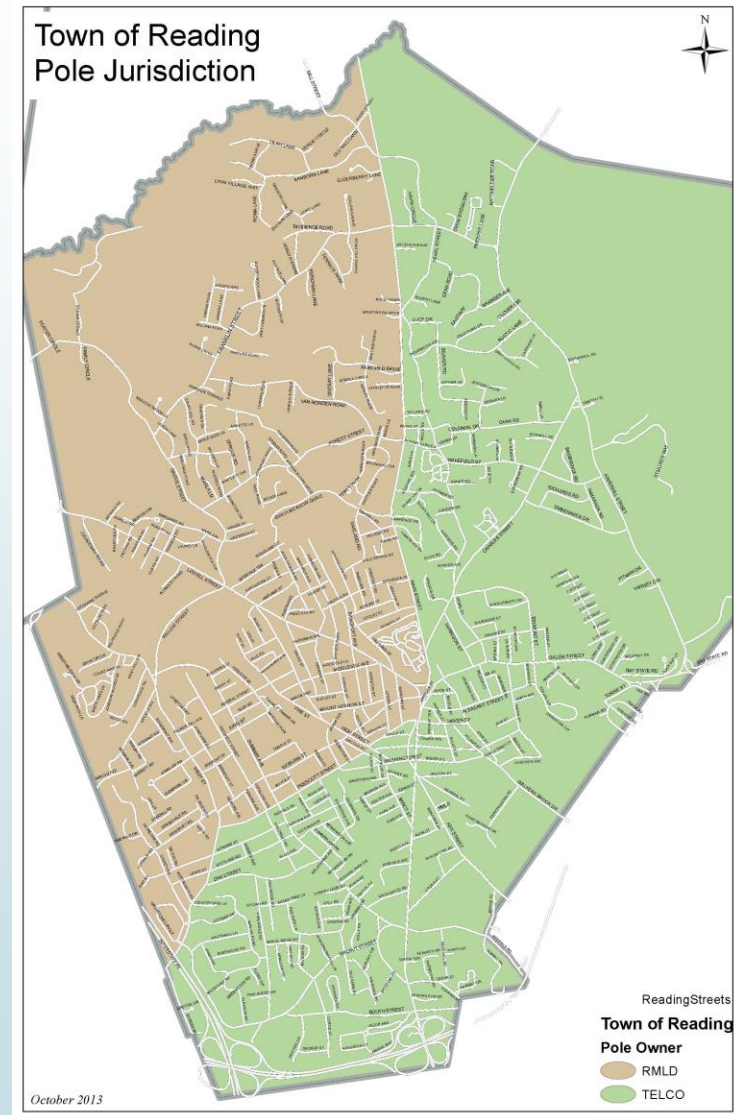
➤ Custodial:

Reading – split (see map) →

North Reading – RMLD

Lynnfield – Verizon

Wilmington - Verizon



# NJUNS

“Next to Go” as of September 10, 2018

LYNNFIELD	
NTG Member and JobType	Count of Ticket Number
<b>LFLDFD</b>	<b>5</b>
<b>Lynnfield Fire Department</b>	
TRANSFER	5
<b>RMLD</b>	<b>19</b>
<b>Reading Municipal Light Department</b>	
TRANSFER	19
<b>(blank)</b>	
<b>Grand Total</b>	<b>24</b>

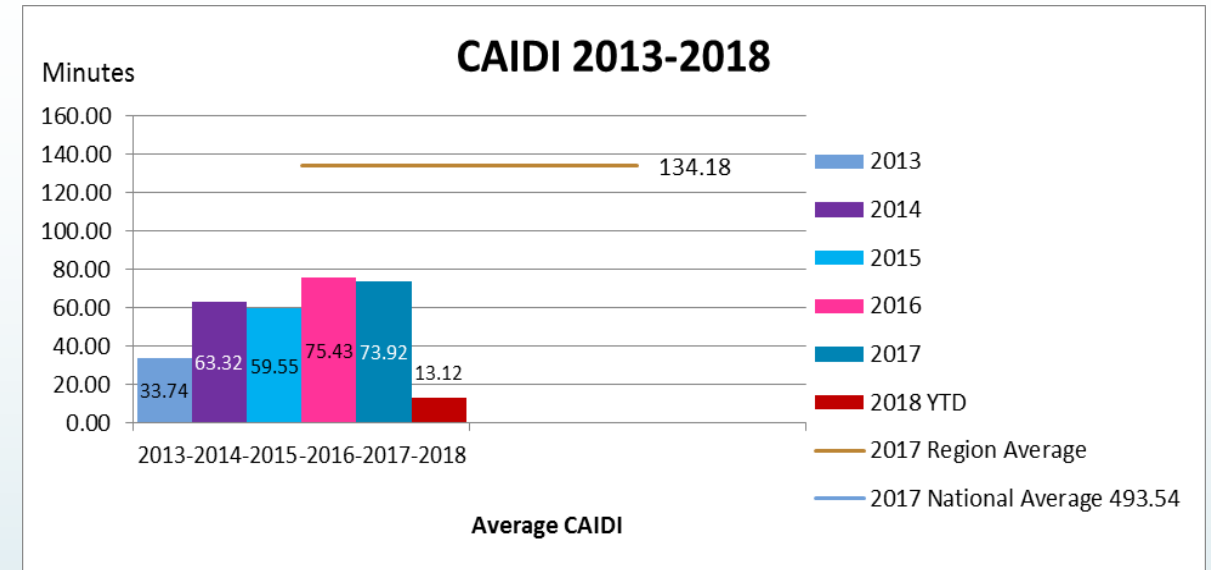
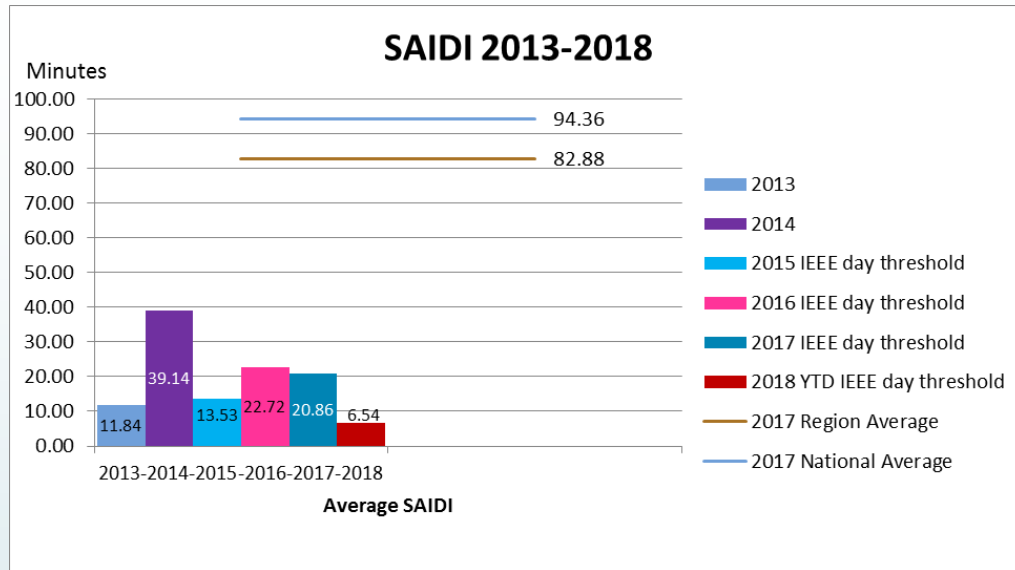
NORTH READING	
NTG Member and JobType	Count of Ticket Number
<b>CMCTNR</b>	<b>1</b>
<b>Comcast Massachusetts</b>	
TRANSFER	1
<b>RMLD</b>	<b>53</b>
<b>Reading Municipal Light Department</b>	
TRANSFER	9
PULL POLE	44
<b>VZNEDR</b>	<b>19</b>
<b>Verizon Massachusetts</b>	
TRANSFER	19
<b>(blank)</b>	
<b>Grand Total</b>	<b>73</b>

READING	
NTG Member and JobType	Count of Ticket Number
<b>CMCTNR</b>	<b>8</b>
<b>Comcast Massachusetts</b>	
TRANSFER	8
<b>LTFMA</b>	<b>1</b>
<b>Lighttower Fiber Networks</b>	
TRANSFER	1
<b>NP3PMA</b>	<b>5</b>
<b>Non-participating 3rd Party</b>	
<b>Attacher - Massachusetts</b>	
TRANSFER	5
<b>RDNGFD</b>	<b>1</b>
<b>Reading Fire Department</b>	
TRANSFER	1
<b>RMLD</b>	<b>45</b>
<b>Reading Municipal Light Department</b>	
TRANSFER	27
PULL POLE	18
<b>VZNESA</b>	<b>4</b>
<b>Verizon Massachusetts</b>	
TRANSFER	4
<b>(blank)</b>	
<b>Grand Total</b>	<b>64</b>

WILMINGTON	
NTG Member and JobType	Count of Ticket Number
<b>CMCTNR</b>	<b>6</b>
<b>Comcast Massachusetts</b>	
TRANSFER	6
<b>LTFMA</b>	<b>1</b>
<b>Lighttower Fiber Networks</b>	
TRANSFER	1
<b>NP3PMA</b>	<b>6</b>
<b>Non-participating 3rd Party</b>	
<b>Attacher - Massachusetts</b>	
TRANSFER	6
<b>NPFAMA</b>	<b>1</b>
<b>Non-participating Fire Alarms -</b>	
<b>Massachusetts</b>	
TRANSFER	1
<b>RMLD</b>	<b>32</b>
<b>Reading Municipal Light</b>	
<b>Department</b>	
TRANSFER	28
PULL POLE	4
<b>VZBMA</b>	<b>1</b>
<b>Verizon Massachusetts</b>	
<b>Business</b>	
TRANSFER	1
<b>VZNEDR</b>	<b>47</b>
<b>Verizon Massachusetts</b>	
TRANSFER	40
PULL POLE	6
DISPUTE	1
<b>WMGNFD</b>	<b>35</b>
<b>Wilmington Fire Department</b>	
TRANSFER	35
<b>(blank)</b>	
<b>Grand Total</b>	<b>129</b>



# RMLD Reliability Indices

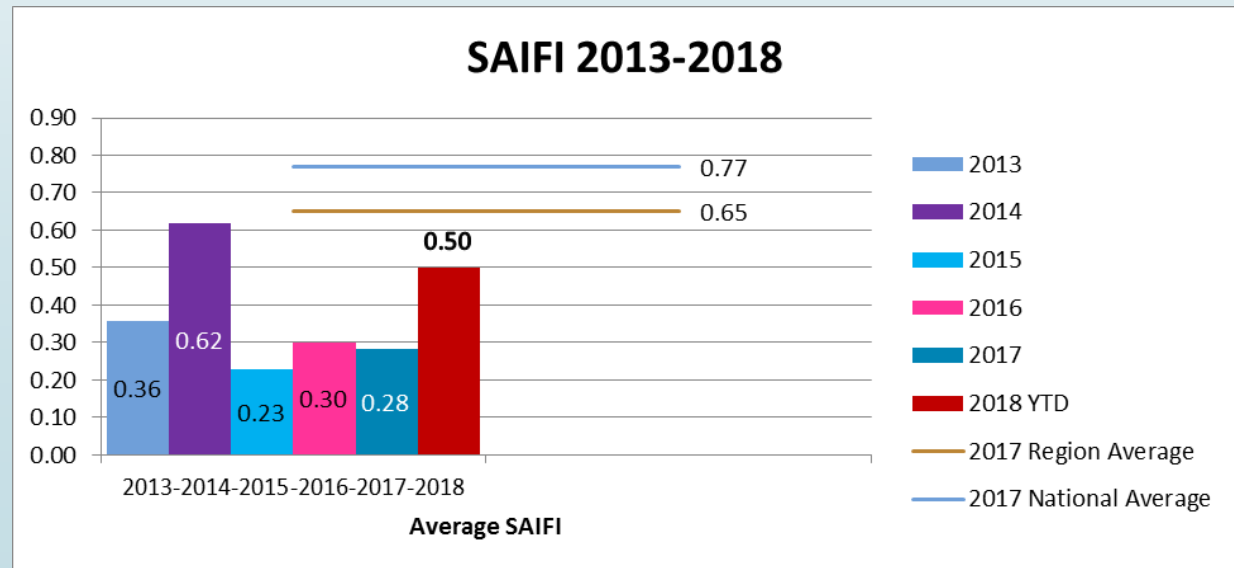


$$SAIDI \text{ (Minutes)} = \frac{\text{Total Duration of Customer Interruptions}}{\text{Total Number of Customers Served}}$$

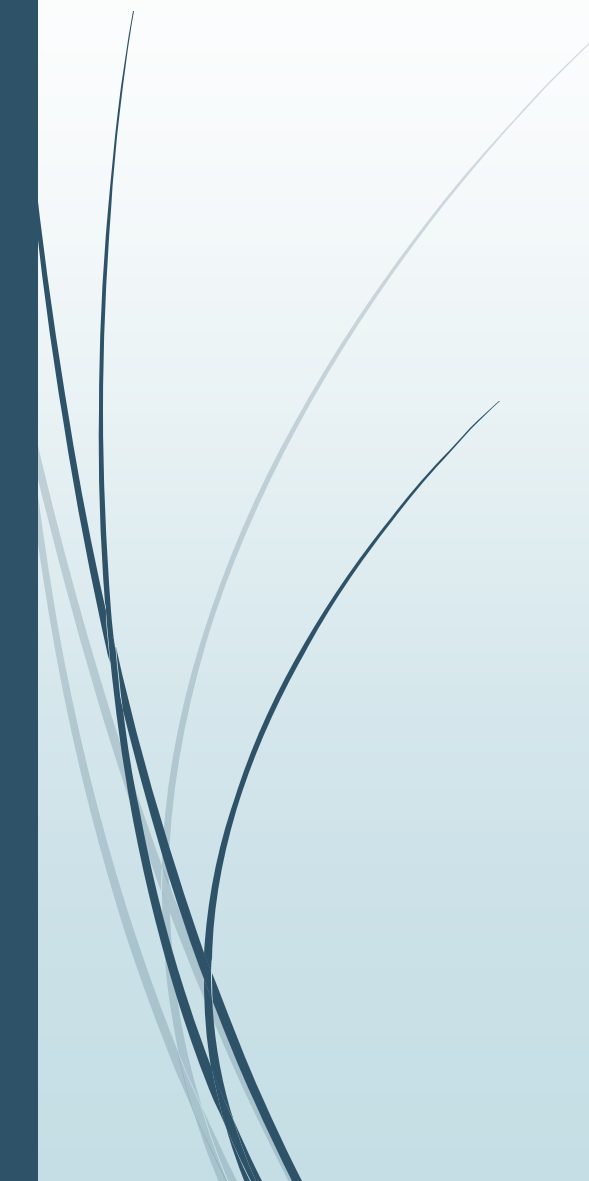
$$CAIDI \text{ (Minutes)} = \frac{\text{Total Duration of Customer Interruptions}}{\text{Total Number of Customers Interruptions}}$$

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

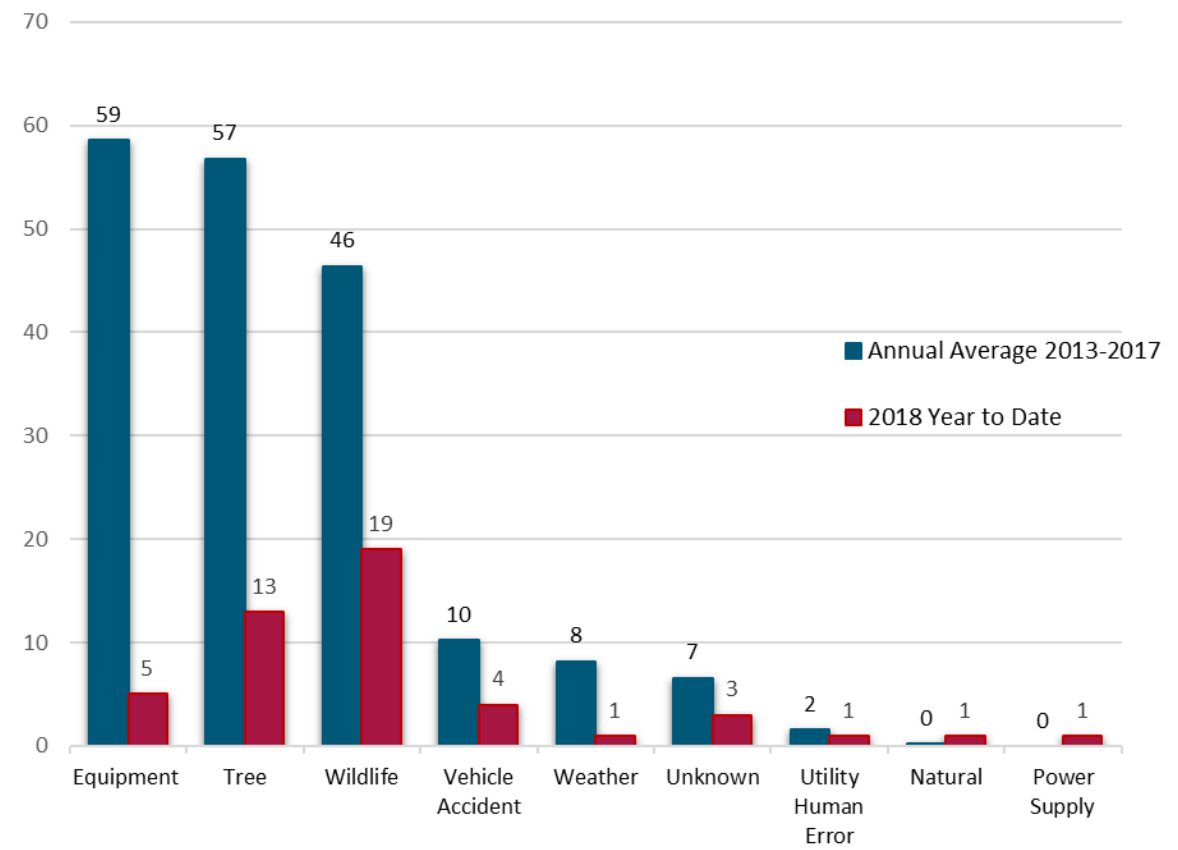
$$SAIFI = \frac{\text{Total Number of Customer Interruptions}}{\text{Total Number of Customers Served}}$$



**Note:** Regional and national averages have been updated for 2017.



### Causes of Outages as of June 2018



# Questions ?



RMLD PROCUREMENT REQUEST  
REQUIRING BOARD APPROVAL  
ATTACHMENT 4



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

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

September 10, 2018

Town of Reading Municipal Light Board

Subject: IFB 2019-01: 115kV Pole Replacement Project

Pursuant to M.G.L. c. 30 § 39M, on July 11, 2018, an invitation for bid was placed as a legal notice in the Middlesex East Section of the Daily Times Chronicle and in the Central Register requesting sealed bids for the 115kV Pole Replacement Project.

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

Construct Connect	Fischbach & Moore Electric Group, LLC	Northeast Line Construction Corp.
The Blue Book Building & Construction Network	Harlan Electric Company	Northline Utilities, LLC
Dagle Electrical Construction Corp.	Mass Bay Electrical Corporation	One Source Power, LLC
Deltek	Maverick Construction	Power Line Contractors
ElecComm Corporation	McDonald Electrical Corporation/MEC Power Group	Project Dog
Elecnor Hawkeye		Sargent Electric Company

Sealed bids were received from five companies: Harlan Electric Company, Mass Bay Electrical Corporation, Northline Utilities, LLC, One Source Power, LLC, and Sargent Electric Company.

The sealed bids were publicly opened and read aloud at 11:00 a.m. on August 1, 2018, in the Town of Reading Municipal Light Department's Winfred Spurr AV Room, 230 Ash Street, Reading, Massachusetts.


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

Move that bid 2019-01 for: 115kV Pole Replacement Project be awarded to: **Mass Bay Electrical Corporation for \$120,585.00**, pursuant to M.G.L. c. 30, § 39M, as the lowest responsible and eligible bidder on the recommendation of the General Manager.

The FY19 Capital Budget amount for this item is \$160,000.

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

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

  
\_\_\_\_\_  
Colleen O'Brien

**115kV Pole Replacement Project**  
**IFB: 2019-01**

<i><b>Bidder</b></i>	<i><b>Lump Sum Bid Price</b></i>	<i><b>Pricing Notes</b></i>
Harlan Electric Company	\$152,140.05	Matting has been included in the Lump Sum pricing for access of the last two structures in the ROW, leading into the substations. These are structures 504-6 and 504-7. The matting price amounts to \$20,000. If this matting is not required, the bid may be reduced by this amount.
<b>Mass Bay Electrical Corporation</b>	<b>\$120,585.00</b>	
Northline Utilities, LLC	\$288,630.58	
One Source Power, LLC	\$257,000.00	
Sargent Electric Company	\$402,000.00	

BOARD MATERIAL AVAILABLE  
BUT NOT DISCUSSED

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

September-18

	RESIDENTIAL 750 kWh's	RESIDENTIAL-TOU 1500 kWh's 75/25 Split	RES. HOT WATER 1000 kWh's	COMMERCIAL 7,300 kWh's 25.000 kW Demand	SMALL COMMERCIAL 1,080 kWh's 10.000 kW Demand	SCHOOL RATE 35000 kWh's 130.5 kW Demand	INDUSTRIAL - TOU 109,500 kWh's 250.000 kW Demand 80/20 Split
<b>READING MUNICIPAL LIGHT DEPT.</b>							
TOTAL BILL	<b>\$122.10</b>	<b>\$208.02</b>	<b>\$138.24</b>	<b>\$1,041.73</b>	<b>\$203.29</b>	<b>\$4,808.30</b>	<b>\$878,197.46</b>
PER KWH CHARGE	\$0.16281	\$0.13868	\$0.13824	\$0.14270	\$0.18823	\$0.13738	\$0.12765
<b>NATIONAL GRID</b>							
TOTAL BILL	<b>\$159.63</b>	<b>\$355.22</b>	<b>\$199.02</b>	<b>\$1,559.43</b>	<b>\$239.23</b>	<b>\$5,993.92</b>	<b>\$1,084,218.99</b>
PER KWH CHARGE	\$0.21284	\$0.23681	\$0.19902	\$0.21362	\$0.22151	\$0.17125	\$0.15760
% DIFFERENCE	30.73%	70.76%	43.96%	49.70%	17.68%	24.66%	23.46%
<b>EVERSOURCE(NSTAR)</b>							
TOTAL BILL	<b>\$174.63</b>	<b>\$266.71</b>	<b>\$230.50</b>	<b>\$1,550.62</b>	<b>\$278.83</b>	<b>\$7,121.97</b>	<b>\$1,204,317.49</b>
PER KWH CHARGE	\$0.23283	\$0.17781	\$0.23050	\$0.21241	\$0.25818	\$0.20348	\$0.17506
% DIFFERENCE	43.01%	28.21%	66.73%	48.85%	37.16%	48.12%	37.14%
<b>PEABODY MUNICIPAL LIGHT PLANT</b>							
TOTAL BILL	<b>\$85.12</b>	<b>\$164.48</b>	<b>\$111.57</b>	<b>\$927.06</b>	<b>\$147.33</b>	<b>\$4,588.13</b>	<b>\$614,483.05</b>
PER KWH CHARGE	\$0.11349	\$0.10965	\$0.11157	\$0.12699	\$0.13642	\$0.13109	\$0.08932
% DIFFERENCE	-30.29%	-20.93%	-19.29%	-11.01%	-27.53%	-4.58%	-30.03%
<b>MIDDLETON MUNICIPAL LIGHT DEPT.</b>							
TOTAL BILL	<b>\$98.74</b>	<b>\$201.66</b>	<b>\$132.75</b>	<b>\$959.51</b>	<b>\$168.44</b>	<b>\$4,762.93</b>	<b>\$807,171.40</b>
PER KWH CHARGE	\$0.13165	\$0.13444	\$0.13275	\$0.13144	\$0.15596	\$0.13608	\$0.11733
% DIFFERENCE	-19.14%	-3.06%	-3.98%	-7.89%	-17.15%	-0.94%	-8.09%
<b>WAKEFIELD MUNICIPAL LIGHT DEPT.</b>							
TOTAL BILL	<b>\$132.36</b>	<b>\$247.17</b>	<b>\$166.88</b>	<b>\$1,257.54</b>	<b>\$199.78</b>	<b>\$5,910.58</b>	<b>\$1,007,556.30</b>
PER KWH CHARGE	\$0.17648	\$0.16478	\$0.16688	\$0.17227	\$0.18499	\$0.16887	\$0.14646
% DIFFERENCE	8.40%	18.82%	20.71%	20.72%	-1.73%	22.92%	14.73%



**From:** [Tracy Schultz](#)  
**To:** [RMLD Board Members Group; "Dave Hennessy \(Davidhennessy@gmail.com\)"](#)  
**Subject:** AP and Payroll Questions for 9-20-18 Board Book  
**Date:** Wednesday, September 12, 2018 1:55:00 PM

---

Good afternoon,

AP:

On July 13<sup>th</sup> there were no Commissioner questions.  
On July 20<sup>th</sup> there were no Commissioner questions.  
On July 27<sup>th</sup> there were no Commissioner questions.  
On August 3<sup>rd</sup> there were no Commissioner questions.  
On August 10<sup>th</sup> there were no Commissioner questions.  
On August 17<sup>th</sup> there were no Commissioner questions.  
On August 24<sup>th</sup> there were no Commissioner questions.  
On August 31<sup>st</sup> there were no Commissioner questions.  
On September 7<sup>th</sup> there were no Commissioner questions.

Payroll:

On July 23<sup>rd</sup> there were no Commissioner questions.  
On August 6 there were no Commissioner questions.  
On August 20<sup>th</sup> there was a Commissioner question about "Extra Regular" pay.

This e-mail will be included in 9-20-18 Board Book.

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