

**READING MUNICIPAL
LIGHT DEPARTMENT**

BOARD OF COMMISSIONERS

REGULAR SESSION

THURSDAY, DECEMBER 20, 2018

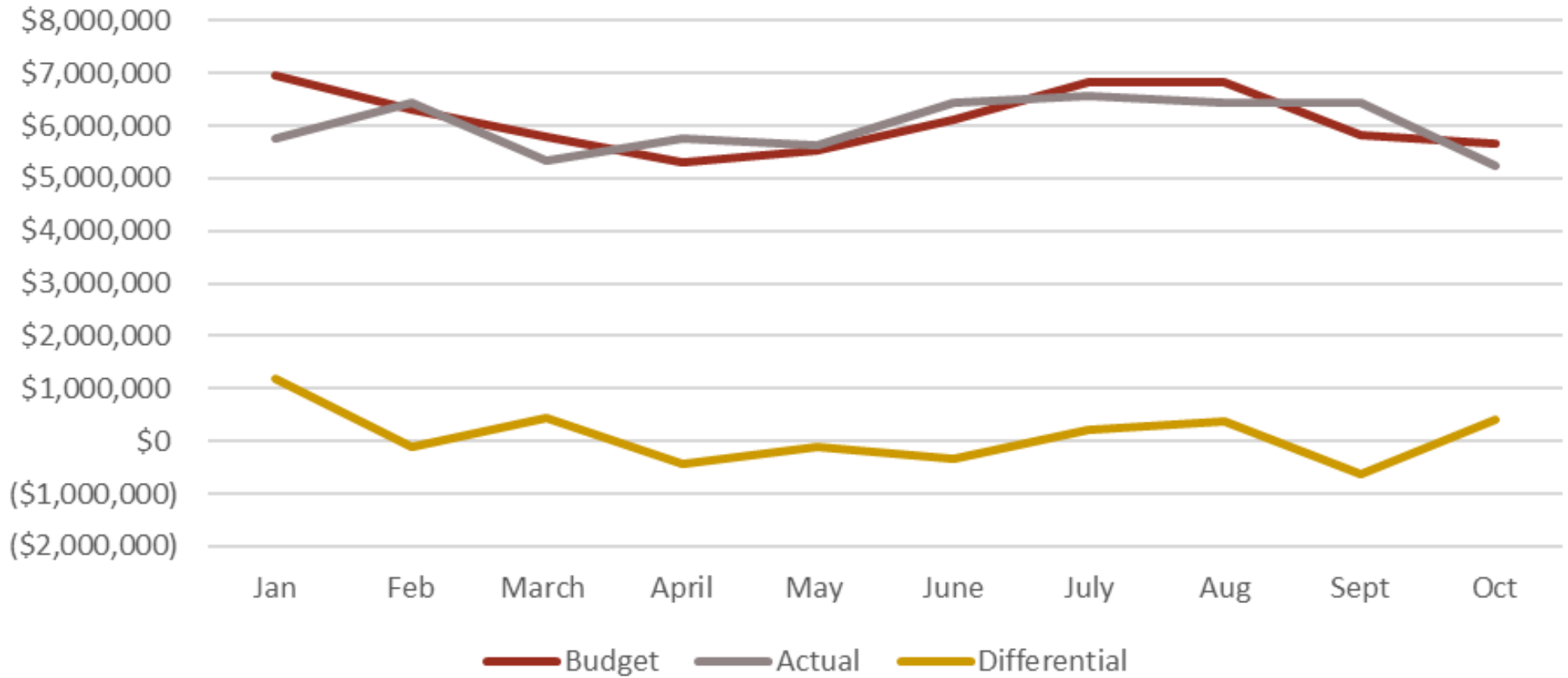
POWER SUPPLY REPORT
SEPTEMBER AND OCTOBER 2018
ATTACHMENT 1



Board of Commissioners Meeting December 20, 2018

*Charles Underhill, Director of Integrated Resources
Reporting for September & October, 2018*

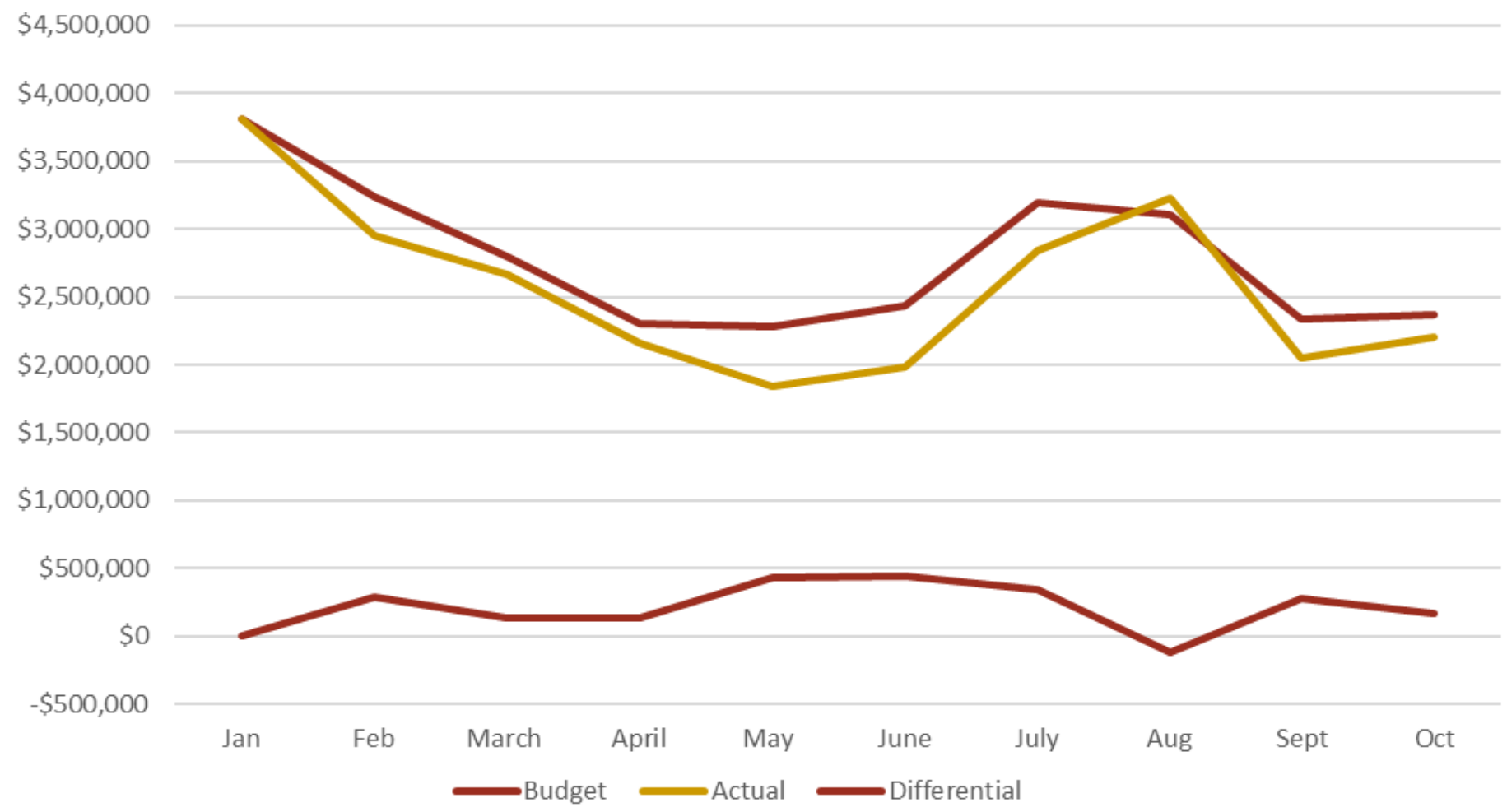
Total Purchase Power Expenses Budget vs Actual thru October 2018



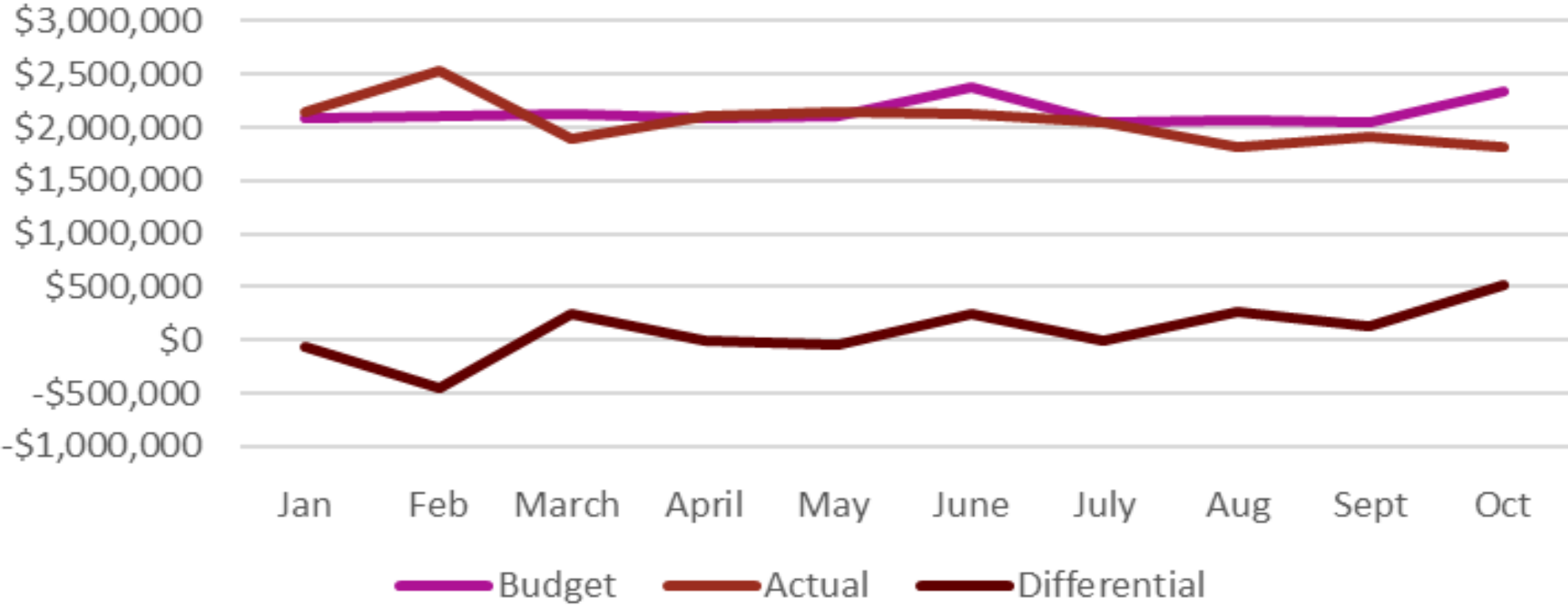


Energy Costs

Budget vs. Actual through October 2018



Capacity Costs Budget vs. Actual through October, 2018



STRATEGIC POWER SUPPLY PILOT
ATTACHMENT 2

RMLD

Report on NextEra Pilot Programs

Objective: Develop and Test Opportunities to Manage Power Supply Costs and Minimize Risks and Allow for Redeployment of IRD Resources

Pilot #1: Transaction Facilitation Agreement

Pilot #2: Load Following Agreement

Transaction Facilitation Agreement (TFA)

Update on Pilot #1 for CY 2018

Objectives:

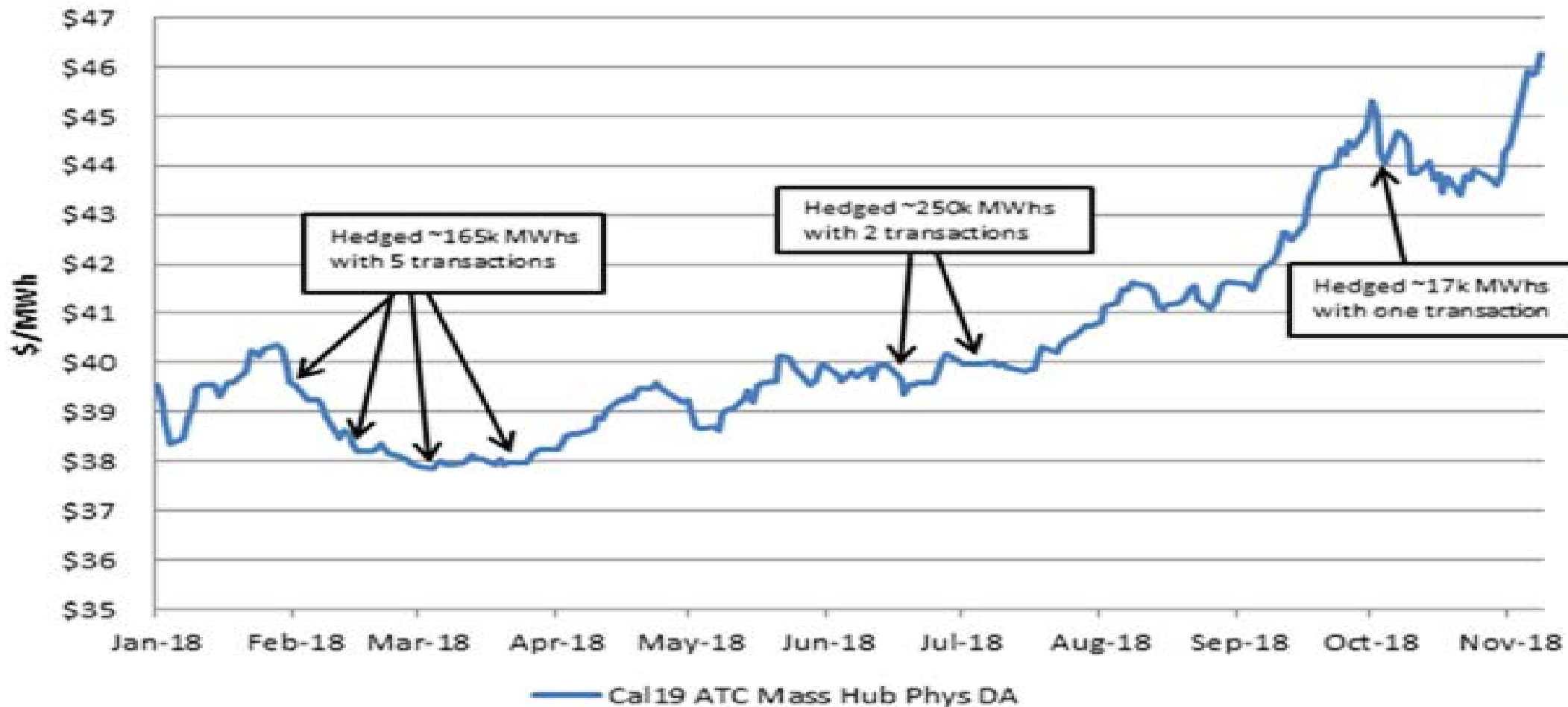
- *Mitigate risk*
- *Stabilize rates*
- *Provides ability/flexibility to quickly/efficiently secure favorable pricing per RMLD Risk Management Strategy*
- *Reduce RMLD procurement costs*
- *Free-up RMLD staff to focus on other RMLD initiatives*

Process:

- *Execute trades –*
 - Based on 4-year historic price and time triggers
 - Consistent with RMLD Risk Management Strategy

Calendar 2019 ATC Mass Hub Phys Day-Ahead

Historical Forwards



Mark to Market Value as of 11-12-18

Trade Date	Volume (MWhs)	Mark-to-Market
2/2/2018	45,663	\$ 89,084
2/21/2018	2,537	\$ 97,229
2/23/2018	105,372	\$ 6,512
3/7/2018	10,976	\$ 83,375
3/27/2018	32,173	\$ 71,366
6/13/2018	27,460	\$ 272,891
7/13/2018	219,813	\$ 956,139
10/3/2018	16,976	\$ 12,915
Total	460,969	\$ 1,589,510

Mark to Market Value as of 11-27-18

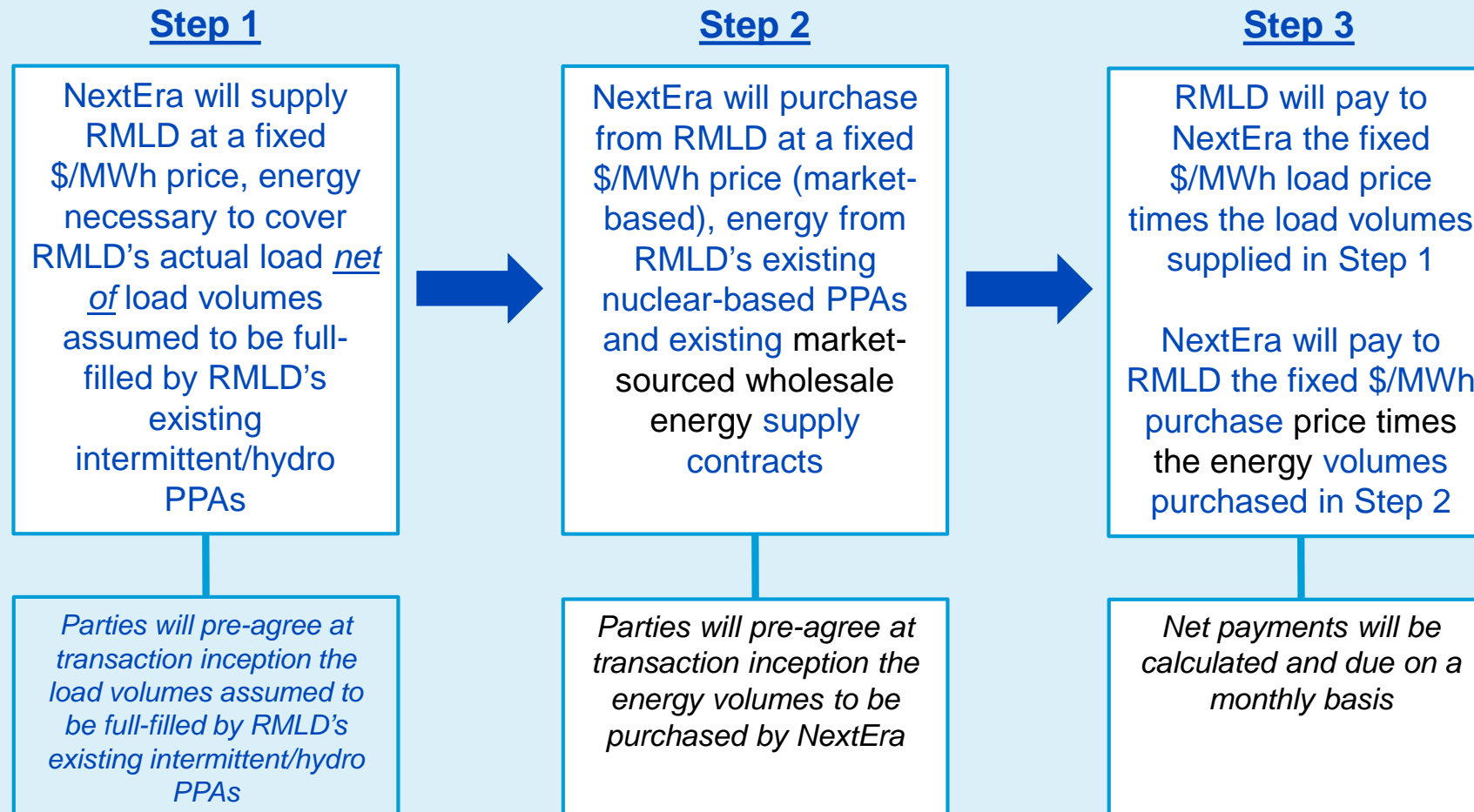
Trade Date	Volume (MWhs)	Mark-to-Market
2/2/2018	45,663	\$ 95,675
2/21/2018	2,537	\$ 126,415
2/23/2018	105,372	\$ 23,302
3/7/2018	10,976	\$ 89,249
3/27/2018	32,173	\$ 77,163
6/13/2018	27,460	\$ 335,642
7/13/2018	211,351	\$ 1,149,525
10/3/2018	16,976	\$ 36,206
Total	452,507	\$ 1,933,177

Load Following Agreement

Proposal for Pilot #2 for CY 2019

- NextEra proposes to cover approximately 85% of RMLD's wholesale energy requirements at a fixed price.
- RMLD will keep intermittent resources and sell existing portfolio of dispatchable resources at market prices.
- Pilot program will be reviewed quarterly and, if appropriate, adjusted for unanticipated impacts.

Summary of Proposed 2019 Pilot Program



All energy sales and purchases under the proposed 2019 Pilot Program will be made at the Mass Hub delivery point

Physical Load Following

- Objectives:

- *Reduce risk of forecasted versus actual load being short or long in every hour*
- *Reduce price volatility risk of market clearing price*
- *Maintain renewable portfolio resources*
- *Establish energy rate stability with fixed \$/MWH rate*
- *Provides for ability to reduce costs via capturing value of StonyBrook/Watson entitlements*

- Indicative Pricing :

- *RMLD's 2019 Budget Projections (energy):* \$28,911,511
- *NextEra at Mass Hub, including fees (energy):* \$27,696,429
- *Potential benefit (net Mass Hub to NEMA):* \$ 1,215,082

Load Following Agreement with NextEra

- Motion:

Move that that the Board of Commissioners accept the Physical Load Following and Power Sale and Purchase Confirmation with NextEra as presented, and authorize the General Manager to enter into purchase power agreements that satisfy the criteria set forth in the RMLD Risk Management Strategy.

- As a matter of protocol, the Department will provide a report on transactions relative to this strategy.

ENGINEERING & OPERATIONS REPORT
OCTOBER 2018
ATTACHMENT 3

ENGINEERING & OPERATIONS REPORT

Hamid Jaffari, Director of Engineering & Operations

RMLD Board of Commissioners Meeting
December 20, 2018

Major Capital Construction Projects

(Currently Underway or Recently Completed)

➤ **115 kV Transmission Line Upgrade**

Work completed in October to replace six poles on the 211-504 transmission lines feeding Station 4.

➤ **Pole Line Upgrade – Woburn Street, Wilmington**

Work continues to upgrade pole line from West Street to Concord Street in Wilmington. This project is expected to be completed by the end of 2018.

➤ **4W5/4W12 Getaway Improvements at Station 4**

Work continues on the overhead portion of this project. RMLD expects to complete the remainder of the overhead construction by the end of 2018.

Area Upgrades

Underground Facilities Upgrades - Various Locations

- *Turner Drive Area, North Reading* – Cable fault/broken conduits at Turner Drive and Elm Street. Installed new pole on Turner Drive, excavated and installed new conduits (pole to manhole) and replaced one transformer.
- *Gazebo Circle, Reading* – Identified and replaced two leaking transformers. Inspected and replaced three additional transformers.
- *Essex Village, Lynnfield* – Installed approximately 2,500 feet of new underground cable. Replaced/upgraded five single-phase pad-mount transformers.

BEFORE AND AFTER



Essex Village, Lynnfield



Gazebo Circle, Reading

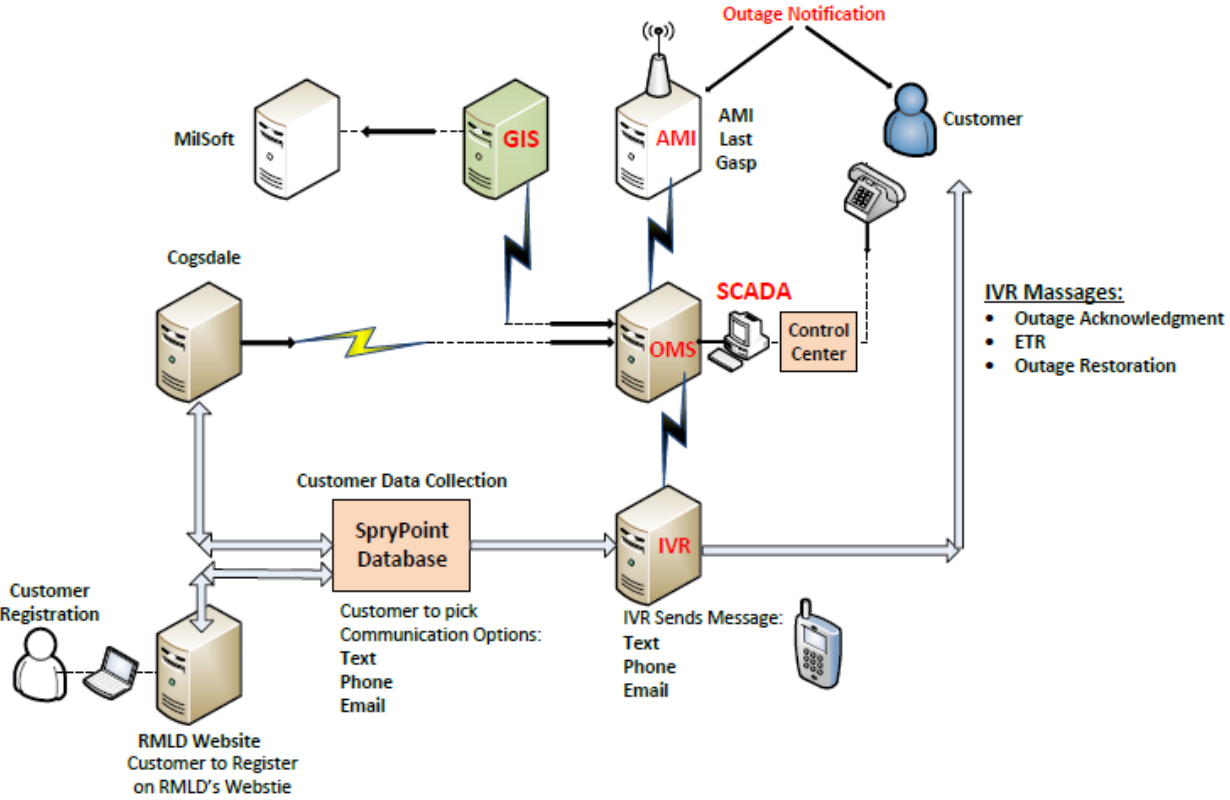


Grid Modernization(FY19-CY19)

- Outage Management System (90% Complete)
 - System Installed
 - Testing In-progress
- IVR
 - Customers to opt in
 - System being installed (30% Complete)
 - Phone;Text; Email
- Automation Projects (15-year plan)
 - Scada-Mate Switches (12/110)
 - IntelliRupter Switches (2/26)
- Communication
 - Mesh Network Expansion (14/26)
 - Relays (20)
 - Meter Upgrades (500)
 - Fiber (backhaul)

OMS-IVR Integration

IVR Integration with OMS
Flow Chart



Maintenance Programs

- Aged Transformer Replacement – Pad-mount: 33% replaced Overhead: 22.7% replaced
(through October 2018)
- Pole Inspection/Replacement Program – 248 poles set 204 transfers completed
- Tree Trimming – 257 spans trimmed YTD through October (124 spans in October)
- Inspection of Feeders – All Circuits Inspected for 2018
- Infrared Scans – Completed through November - No Hot Spots Found
- Manhole Inspection – on-going
- Porcelain Cutout Replacement – on-going

Double Poles

Per NJUNS

(as of 12/14/18)

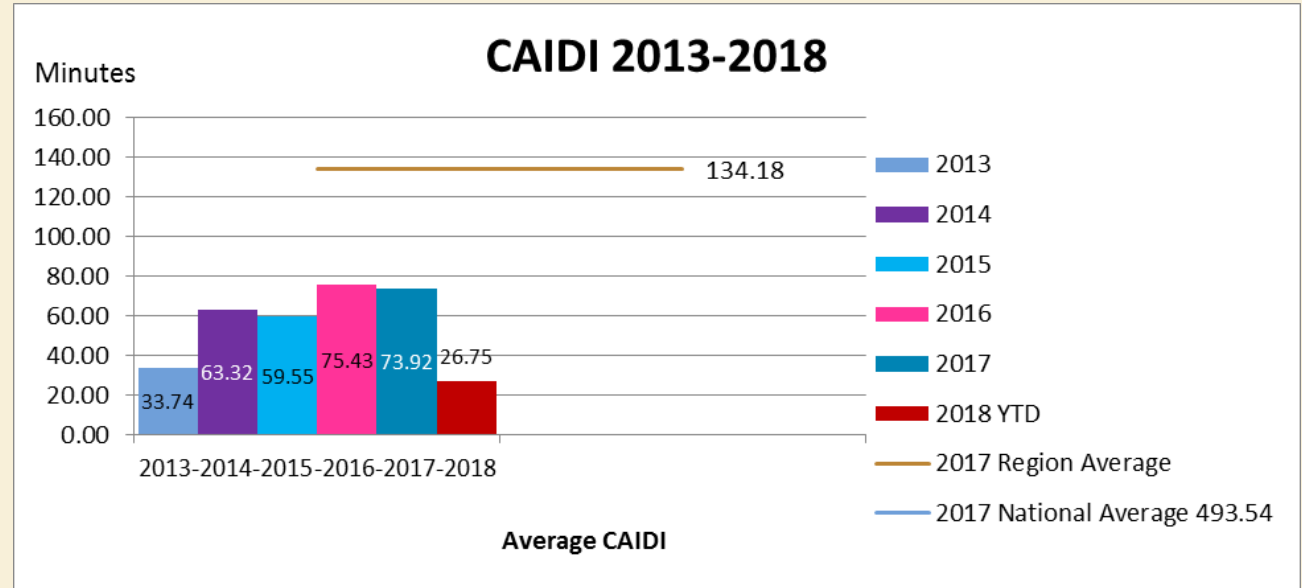
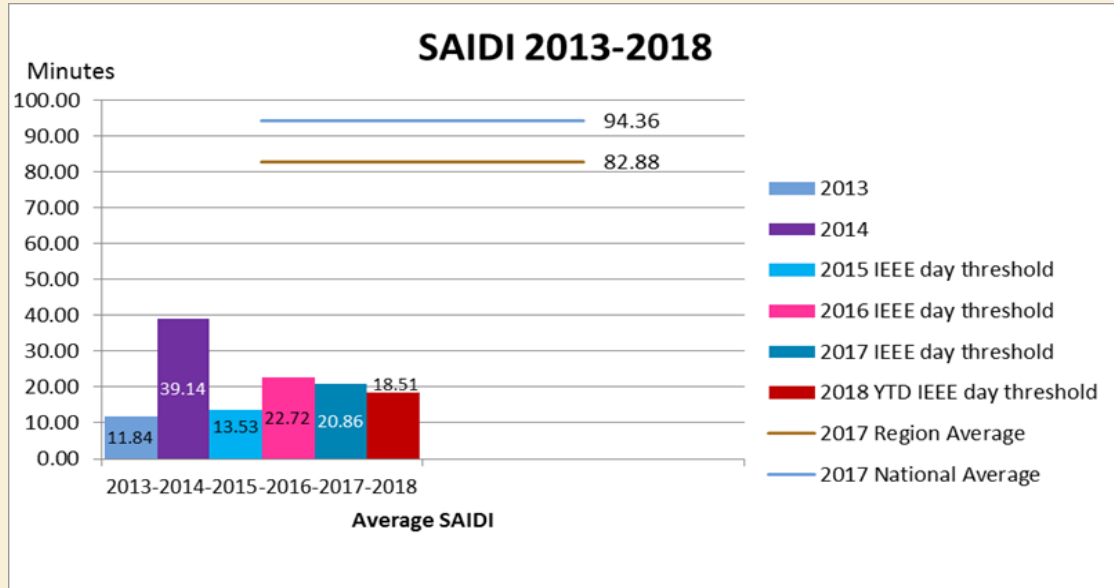
LYNNFIELD	
"Next to Go"	# of Tickets
☐ LFLDFD	5
TRANSFER	5
☐ RMLD	15
TRANSFER	15
☐ CMCTNR	4
TRANSFER	4
☐ VZNESA	1
TRANSFER	1
Grand Total	25

READING	
"Next to Go"	# of Tickets
☐ RMLD	34
TRANSFER	24
PULL POLE	10
☐ NP3PMA	5
TRANSFER	5
☐ CMCTNR	22
TRANSFER	22
☐ RDNGFD	10
TRANSFER	10
☐ LTFMA	1
TRANSFER	1
Grand Total	72

NORTH READING	
"Next to Go"	# of Tickets
☐ VZNEDR	10
TRANSFER	10
☐ RMLD	20
TRANSFER	8
PULL POLE	12
☐ LTFMA	1
TRANSFER	1
☐ CMCTNR	3
TRANSFER	3
☐ NRDGFD	1
TRANSFER	1
Grand Total	35

WILMINGTON	
"Next to Go"	# of Tickets
☐ WMGNFD	39
TRANSFER	39
☐ RMLD	32
TRANSFER	28
PULL POLE	4
☐ VZBMA	1
TRANSFER	1
☐ NP3PMA	6
TRANSFER	6
☐ LTFMA	1
TRANSFER	1
☐ VZNEDR	4
TRANSFER	2
PULL POLE	2
☐ CMCTNR	3
TRANSFER	3
Grand Total	86

RMLD Reliability Indices

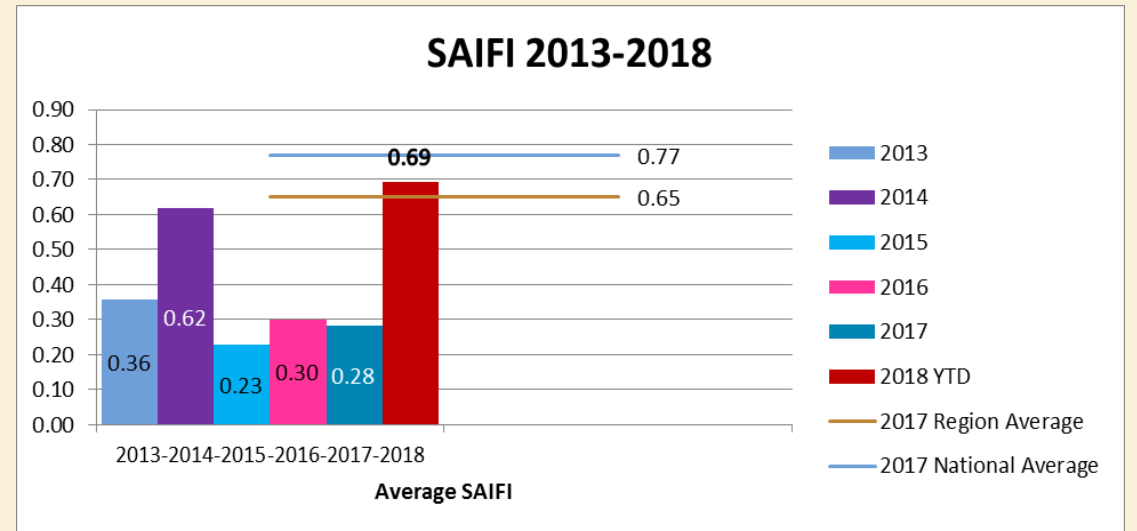


$$SAIDI \text{ (Minutes)} = \frac{\text{Total Duration of Customer Interruptions}}{\text{Total Number of Customers Served}}$$

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

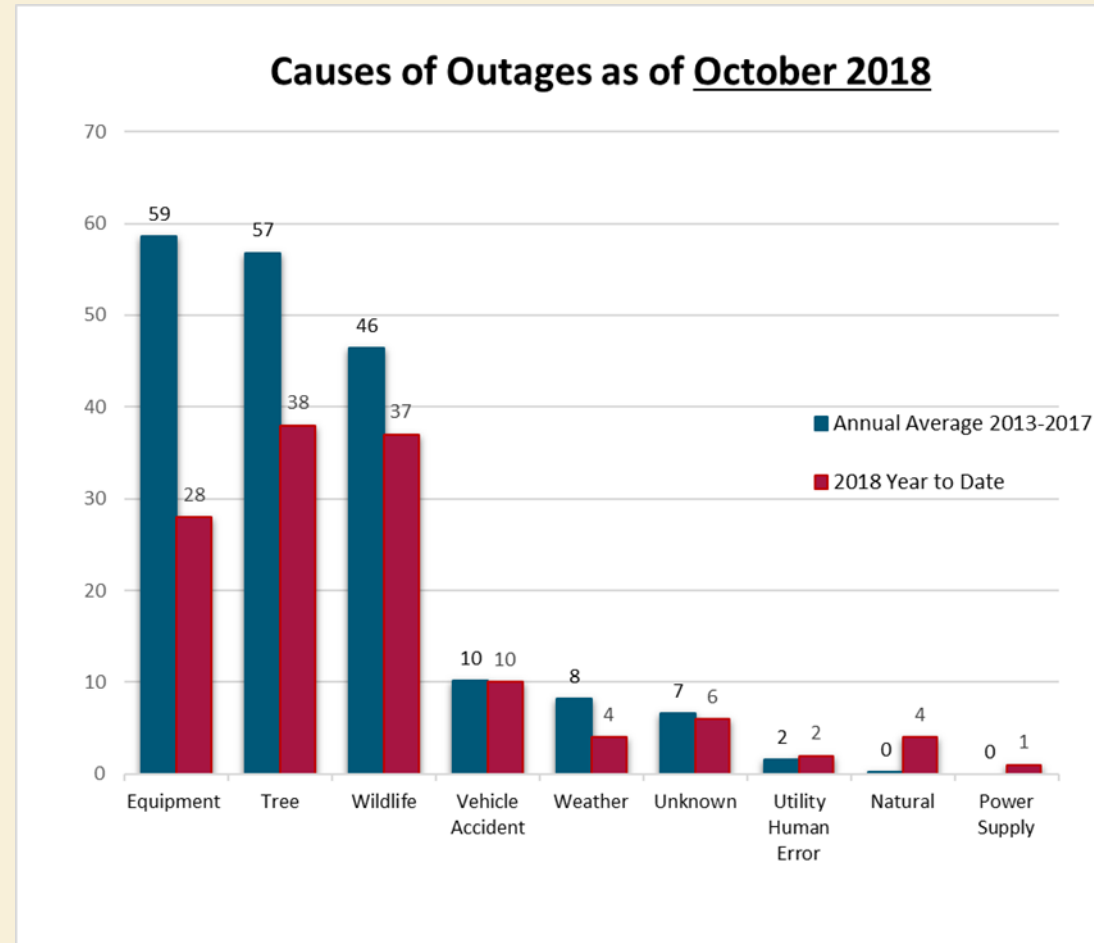
Note: The major event (ME) threshold allows a utility to remove outages that exceed the IEEE 2.5 beta threshold for events. These events could be severe weather, which can lead to unusually long outages in comparison to your distribution system's typical outage.

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



Regional and national averages have been updated for 2017.

Outages



Recent Significant Outage Events: nothing significant to report

RMLD PROCUREMENT REQUEST
REQUIRING BOARD APPROVAL
ATTACHMENT 4



December 13, 2018

Town of Reading Municipal Light Board

Subject: IFP 2019-04 Solid Dielectric Padmounted Switchgear

Pursuant to M.G.L c. 164 § 56D, on October 31, 2018, an invitation for proposals was placed as a legal notice in the Middlesex East Section of the Daily Times Chronicle, and posted on the RMLD website on Thursday, November 1, 2018, requesting sealed proposals for Solid Dielectric Padmounted Switchgear.

An invitation for proposals was sent to the following eighteen companies:

- | | | |
|-------------------------------------|-------------------------------|---------------------------------------|
| A.A. MacPherson Co., Inc. | ABB, c/o Primary Lines, Inc. | Circuit Breaker Sales NE, Inc. |
| Diversified Electric Services, Inc. | E.L. Flowers & Associates | Eaton Cooper Power Systems |
| Graybar Electric | Hasgo Power Sales | Innovative Switchgear Solutions, Inc. |
| Stuart C. Irby Company | Omicron Electronics Corp. USA | Power Sales Group, Inc. |
| Power Tech, dba UPSC | Prime Vendor, Inc. | Robinson Sales, Inc. |
| Shamrock Power Sales, LLC | Trayer Engineering Corp. | WESCO Distribution, Inc. |

Sealed proposals were received from three companies: S&C Electric Company, c/o E.L. Flowers & Associates, G&W Electric Company, and Innovative Switchgear Solutions, Inc.

The sealed proposals were publicly opened and read aloud at 11:00 a.m., December 5, 2018, in the Town of Reading Municipal Light Department's Audio Visual Spurr Room, 230 Ash Street, Reading, Massachusetts.

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

Move that proposal 2019-04 for Solid Dielectric Padmounted Switchgear be awarded to **Innovative Switchgear Solutions, Inc. for \$333,250** pursuant to Chapter 164 § 56D on the recommendation of the General Manager.

The FY19 Capital Budget amount for this item is \$312,500.



Peter Price



Hamid Jaffari



Coleen O'Brien

**Solid Dielectric Padmounted Switchgear
IFP 2019-04**

Bidder	<u>Manufacturer</u>	<u>Unit Price</u>	<u>Qty</u>	<u>Total Price</u>	<u>Delivery Date</u> <u>ARO</u>	<u>Firm Price</u>	<u>All forms filled out</u>	<u>Certified Check or Bid Bond</u>	<u>Exceptions to stated bid requirements</u>	<u>Authorized signature</u>
Innovative Switchgear Solutions, Inc. Padmount Switchgear	Innovative Switchgear	\$66,650.00	5	\$333,250.00	20 weeks	yes	yes	yes	yes	yes
		<u>Engineering Notes:</u>		Exceptions are acceptable.						
S&C Electric Company, c/o E.L. Flowers & Associates Padmount Switchgear	S&C Electric	\$78,000.00	5	\$390,000.00	25-28 weeks	yes	yes	yes	yes	yes
Padmount Switchgear - Alt.	S&C Electric	\$66,890.00	5	\$334,450.00	25-28 weeks					
G&W Electric Company Padmount Switchgear	G&W Electric	\$80,093.00	5	\$400,465.00	27 weeks	yes	yes	yes	yes	yes

BOARD MATERIAL AVAILABLE
BUT NOT DISCUSSED

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

December-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
READING MUNICIPAL LIGHT DEPT.							
TOTAL BILL	\$124.94	\$213.69	\$142.02	\$1,006.11	\$198.02	\$4,637.50	\$841,713.11
PER KWH CHARGE	\$0.16659	\$0.14246	\$0.14202	\$0.13782	\$0.18335	\$0.13250	\$0.12235
NATIONAL GRID							
TOTAL BILL	\$181.16	\$394.97	\$227.67	\$1,754.99	\$268.16	\$7,203.52	\$1,315,173.20
PER KWH CHARGE	\$0.24155	\$0.26331	\$0.22767	\$0.24041	\$0.24830	\$0.20581	\$0.19117
% DIFFERENCE	45.00%	84.83%	60.30%	74.43%	35.42%	55.33%	56.25%
EVERSOURCE(NSTAR)							
TOTAL BILL	\$174.36	\$307.31	\$230.14	\$1,554.42	\$252.15	\$7,300.31	\$1,236,577.78
PER KWH CHARGE	\$0.23247	\$0.20487	\$0.23014	\$0.21293	\$0.23348	\$0.20858	\$0.17975
% DIFFERENCE	39.55%	43.81%	62.04%	54.50%	27.34%	57.42%	46.91%
PEABODY MUNICIPAL LIGHT PLANT							
TOTAL BILL	\$87.48	\$169.49	\$114.91	\$940.93	\$149.38	\$4,654.63	\$627,554.29
PER KWH CHARGE	\$0.11664	\$0.11299	\$0.11491	\$0.12889	\$0.13832	\$0.13299	\$0.09122
% DIFFERENCE	-29.98%	-20.68%	-19.09%	-6.48%	-24.56%	0.37%	-25.44%
MIDDLETON MUNICIPAL LIGHT DEPT.							
TOTAL BILL	\$98.74	\$201.66	\$132.75	\$959.51	\$168.44	\$4,762.93	\$807,171.40
PER KWH CHARGE	\$0.13165	\$0.13444	\$0.13275	\$0.13144	\$0.15596	\$0.13608	\$0.11733
% DIFFERENCE	-20.97%	-5.63%	-6.53%	-4.63%	-14.94%	2.70%	-4.10%
WAKEFIELD MUNICIPAL LIGHT DEPT.							
TOTAL BILL	\$130.49	\$243.42	\$164.38	\$1,239.29	\$197.08	\$5,823.08	\$990,357.30
PER KWH CHARGE	\$0.17398	\$0.16228	\$0.16438	\$0.16977	\$0.18249	\$0.16637	\$0.14396
% DIFFERENCE	4.44%	13.91%	15.74%	23.18%	-0.47%	25.57%	17.66%

From: [Tracy Schultz](#)
To: [RMLD Board Members Group](#); [Dave Hennessy \(Davidhennessy@gmail.com\)](#)
Subject: AP and Payroll Questions for 12-20-18 Board Book
Date: Monday, December 17, 2018 12:10:00 PM

Good afternoon,

AP:

On November 30th there were no Commissioner questions.

On December 7th there were no Commissioner questions.

On December 14th there were no Commissioner questions.

Payroll:

On December 10th there were no Commissioner questions.

This e-mail will be included in 12-20-18 Board Book.

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