

**READING MUNICIPAL  
LIGHT DEPARTMENT**

**BOARD OF COMMISSIONERS**

**REGULAR SESSION**

**WEDNESDAY, MAY 9, 2018**

RMLD'S FISCAL YEAR 2019 CAPITAL BUDGET  
ATTACHMENT 1



# READING MUNICIPAL LIGHT DEPARTMENT

## FISCAL YEAR 2019 CAPITAL BUDGET

BOARD OF COMMISSIONERS PRESENTATION

MAY 9, 2018

# REVIEW OF PROJECTS COMPLETED OR SCHEDULED TO BE COMPLETED IN FY18

	FY18 ESTIMATE	TOTAL COST ESTIMATE*	PROJECT SCHEDULE
✓ Distributed Gas Generation	\$581k	\$2,613k	FY16-18
✓ GIS	\$380k	\$790k	FY16-18
✓ LED Street Light Implementation-All Towns	\$940k	\$2,193k	FY16-18
✓ 4W9 Getaway Replacement	\$132k	\$268k	FY17-18
✓ Various Upgrades at Station 3 Reactors, Remote Terminal Unit, Relay Upgrades and SCADA Integration	\$373k	\$784k	FY17-18
✓ Miscellaneous Projects Control Center Modifications, Remote SCADA Room, and Power Washer and Vacuum	\$195k	\$195k	FY18

\*Total Project Cost Estimate = Prior Years Actual Spending Plus FY18 Estimated Spending

 BOOTH RECOMMENDATION



# PROJECTS CONTINUING IN FY19

	FY18 ESTIMATE	FY19 ESTIMATE	PROJECT SCHEDULE
➤ Woburn Street Wilmington – Pole Line Upgrade	\$213k	\$213k	FY18-19
➤ 115kV Transmission Pole Upgrade	\$145k	\$223k	FY18-19
➤ 35kV Underground Cable Upgrade	\$207k	\$252k	FY18-20
➤ Pad-mount Switchgear Upgrade (Industrial Parks)	\$500k	\$436k	6-YEAR PLAN
➤ Grid Modernization & Optimization	\$381k	\$676k	15-YEAR PLAN
➤ New Wilmington Substation	\$267k	\$151k	FY17-23
➤ Miscellaneous	\$155k	\$340k	FY18
LED Lighting at 230 Ash Street, Parking Lot Upgrade at 230 Ash Street, EVSE, Battery Storage			

 BOOTH RECOMMENDATION



# NEW PROJECTS FOR FY19

## FY19 ESTIMATE

❖ Ballardvale Street, W – Pole Line Upgrade	\$225k	two-year project
❖ 4W5 Getaway Replacement, W	\$152k	one-year project
❖ 4W6 Getaway Replacement, W	\$157k	one-year project
❖ 4W16 Getaway Replacement, W	\$206k	one-year project
❖ Mass DOT Project: Main & Hopkins, R	\$225k	one-year project
❖ Power/Lab and Tool Equipment	\$76k	recurring

 BOOTH RECOMMENDATION

# ANNUALLY BUDGETED/RECURRING PROJECTS

	FY18 ESTIMATE	FY19 ESTIMATE
▪ Miscellaneous Computer Hardware/Software Upgrades	\$186k	\$550k
▪ Rolling Stock Replacement	\$229k	\$275k
▪ Building, Office and Security Upgrades	\$215k	\$60k
▪ AMI Mesh Network Expansion	\$120k	\$121k
▪ Communications Equipment	\$100k	\$49k
▪ Pole Replacement Program	\$209k	\$263k
▪ Secondary and Main Replacement Program	\$222k	\$344K
▪ 13.8kV Upgrades (Step-down Areas, etc.)	\$71k	\$331k
▪ Underground Facilities Upgrades	\$345k	\$332k
▪ Service Connections (Residential and Commercial)	\$150k	\$142k
▪ Routine Construction	\$1,044k	\$1,078k
▪ Miscellaneous Purchases (Meters and Metering Equipment, Transformers, and Substation Equipment)	\$651k	\$693k



**BOOTH RECOMMENDATION**



# SUMMARY

## FY18 RECAP

Budgeted

\$7,686k

Estimated Spending

\$8,009k

Variance

(\$323k)

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## FY19 PLANNED

Estimated Spending

\$7,570k

# **READING MUNICIPAL LIGHT DEPARTMENT**



## **FY19 BUDGET**

**March 29, 2018**



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## FY19 OPERATING BUDGET

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# Reading Municipal Light Department



**Mission Statement:**

RMLD is committed to providing excellent customer service, including competitively priced electricity through due diligence of power supply, risk management, system reliability, safety, and overall business efficiency.

**Vision Statement:**

RMLD has transitioned from a reactive to a proactive approach in all aspects of the utility business to ensure efficiency, safety, and competitive rates. The Be Efficient - Get Greener - Go Paperless, Peak Performance, and Shred the Peak campaigns, have been integrated into a core business and include sustained procedural changes in the areas of long-term planning, technology road mapping, talent managing, customer communication, system maintenance and power supply portfolio balancing.

## SYSTEM PROFILE (based on FY17)

<b>SERVICE TERRITORY</b>	51 square miles serving Reading, North Reading, Wilmington, and part of Lynnfield
<b>TOTAL OPERATING REVENUES</b>	\$92,616,757
<b>POWER PURCHASED</b>	697,052,494 kWh
<b>NUMBER OF CUSTOMERS/ METERS SERVED</b>	29,720
<b>ANNUAL PEAK DEMAND</b>	155,746 kW on June 13, 2017, at 4:00 pm
<b>ANNUAL SALES</b>	675,536,970 kWh
<b>PLANT VALUE</b>	\$144,799,000 (Gross) \$76,111,000 (Net)
<b>SUPPLY VOLTAGE</b>	115 kV
<b>SUPPLY CAPACITY</b>	Station 4: (3) 60 MVA Transformers (2) 35 MVA Transformers – feeds Station 5 250 MVA Connected, 190 MVA Firm  Station 3: (2) 60 MVA Transformers 120 MVA Connected, 60 MVA Firm
<b>DISTRIBUTION SYSTEM VOLTAGE</b>	13,800 volt wye 4,160 volt wye
<b>OVERHEAD PRIMARY LINES</b>	All 336 miles
<b>UNDERGROUND PRIMARY LINES</b>	All 144 miles
<b>DISTRIBUTION TRANSFORMERS</b>	4,202 transformers – 310 MVA Capacity
<b>STATION TRANSFORMER CAPACITY</b>	370 MVA Capacity
<b>UTILITY POLES</b>	17,841 poles <i>Ownership: 50% Verizon, 50% RMLD</i>  <i>Custodial By Town:</i>

	<p>North Reading – RMLD  Lynnfield – Verizon  Reading</p> <ul style="list-style-type: none"> <li>• east of Main Street – Verizon</li> <li>• west of Main Street, east of West Street, south of Prescott Street – Verizon</li> <li>• west of West Street – RMLD</li> <li>• west of Main Street, north of Prescott Street – RMLD</li> </ul> <p>Wilmington</p> <ul style="list-style-type: none"> <li>• all poles with 35 kV sub-transmission circuits, and Concord Street – RMLD</li> <li>• all other locations in Wilmington – Verizon</li> </ul>
<b>APPLICATION SOFTWARE</b>	
	<p>Great Plains/Cogsdale  Windows Server 2012, 2008,  Microsoft SQL  Office 365 E3  ESRI GIS  VMware  Windows 7, 8, 8.1, 10  SharePoint  WindMil (in process)  LightTable (in process)  PoleForeman  SpryMobile  Survalent</p>
<b>CONTACT INFORMATION</b>	
Address:	230 Ash Street Reading, MA 01867
Telephone:	781-942-6598
Fax:	781-942-2409
Website:	<a href="http://www.rml.com">www.rml.com</a>
Office Hours	8:00 am - 4:30 pm Monday through Friday
<b>KEY PERSONNEL</b>	
General Manager	Coleen O'Brien email: <a href="mailto:cobrien@rml.com">cobrien@rml.com</a>
Director of Business, Finance & Technology	Wendy Markiewicz email: <a href="mailto:wmarkiewicz@rml.com">wmarkiewicz@rml.com</a>
Director of Integrated Resources Division	Jane Parenteau email: <a href="mailto:jparenteau@rml.com">jparenteau@rml.com</a>
Director of Engineering and Operations	Hamid Jaffari email: <a href="mailto:hjaffari@rml.com">hjaffari@rml.com</a>
<b>GOVERNING BODY</b>	
	<p>David Hennessy  Thomas O'Rourke  Philip B. Pacino  John Stempeck  David Talbot</p>
<b>Number of Employees</b>	74
<b>Year Founded</b>	1894

3/27/2018

READING MUNICIPAL LIGHT DEPARTMENT

Capital Improvements FY18 thru FY23

\$ Shown in thousands

LINE #	PG #	Project #	FERC #	PROJECT NAME	FY18 Budget	FY18 Estimate	FY19 PLAN EST.	FY20	FY21	FY22	FY23	BRIEF DESCRIPTION
1	n/a	129	361	Master Facilities Site Plan (ON-HOLD)								Town economic development plan impact. Master-hold. Evaluate maintenance only.
2	11	104	361	RMLD Lighting (LED) Upgrade Program	100	25	100					Upgrade Ash Street and other RMLD facilities including substations with new LED fixtures. Evaluate transformer. Change in Scope: installation of fixtures by an electrical contractor.
3	13	140	390	Parking Lot Upgrade - 230 Ash Street		100	130					Reconfigure parking lot at 230 Ash Street.
4	n/a	095	361	Building Upgrades	110	110		80	75	125	50	Partial roof covering over 30% of building at 230 Ash Street, and lobby insulation (FY18). No major building upgrades planned for FY19.
5	15	098	391	Office Upgrades -230 Ash Street	92	75	30	30	30	30	30	Reconfigure IRD area to accommodate staffing changes.
6	17	119	384	Security Upgrades All Sites	30	30	30	30	30	30	30	Access control, alarm monitoring, video and perimeter monitoring along the fence lines.
7	19	118	392	Rolling Stock Replacement (vehicles, trailers, fork trucks)	230	229	275	300	300	300	300	Scheduled vehicle replacement based on Fleet Assessment. FY19: forklift, light duty pick-up, underground utility vehicle.
8	23	099	392	Electric Vehicle Supply Equipment (EVSE)	10	30	10	10	10			One electric charging station per town in the service area. Research grant options. FY18: unit installed at 230 Ash Street, Reading. FY19 location TBD
9				<b>DEMAND MANAGEMENT</b>								Alternate years solar/battery storage and gas.
10	n/a	100	344	Distributed Gas Generation		581						FY16-18: Pilot DG gas peaking unit.
11	25	101	363	Battery Storage	25	0	100					Project redirected to 5MW storage at Station 3. Substation integration into battery unit.
12	27	127	382	Hardware Upgrades	105	56	125	119	119	119	119	General hardware purchases, wireless internal network configuration.
13	29	128	383	Software and Licensing	235	130	425	314	239	239	239	General software purchases/custom programming (Itron, Cogsdale, Milsoft, Survalent, MSF, Substation Asset Management Software, etc.)
14	31	137	364/365	Woburn Street, Wilmington (between West and Concord Streets) - Pole Line Upgrade	200	213	213					Replace/upgrade twenty-four (24) main line poles and four (4) stub poles on Woburn Street (from Concord to West Street) to proper strength and height, create proper NESC clearance between utilities. Benefit to long-term reliability.
15	33	108	355	115 kV Transmission Pole Upgrade (1 LINE PER YEAR FY18 & 19)	95	145	223					115kV transmission poles feeding Station 4 built in 1970 and have reached the end of their useful life. 211-503 upgraded in FY18 and 211-504 to be upgraded in FY19.
16	35	109	366	35kV UG Cable Upgrade at Station 4, Station 5 and RR ROW	207	207	252	322				35kV Underground cables feeding substation 5 (4P2 and 4P9) are over 36 years old. Both are due for upgrade. FY18: 4P2 FY19: 4P9 at Station 4 FY20: 4P9 on RR ROW and Station 5
17	37	102	367	Pad-mount Switchgear Upgrade at Industrial Parks	196	500	436	439	439	439	176	Starting in FY18, replace all 15 kV pad-mounted switchgears at industrial parks (i.e., River Park Drive, Jonspin Road, Haven Street, etc.) There are 29 switches system-wide.
18	39	103		<b>GRID MODERNIZATION &amp; OPTIMIZATION</b>	<b>227</b>	<b>381</b>						Fifteen-year plan to implement Technology Road Map for grid efficiency, reduction of losses, etc. FY18: \$94k for 2 OMS modules (outage portal and dashboard).
19			365	Scada- Mate Switches			301	307	307	307	307	4 switches/year plus IntelliTeam licenses
20			365	IntelliRupter®			135	137	137	137	137	2 switches/year plus IntelliTeam licenses
21			383	SCADA Upgrade			21					Software upgrade
22			383	Software Integration			14	15	20	20	20	Integration of AMI/Scada-Mate switches/OMS
23			383	OMS Modules			0	60	50			Adding OMS modules: FY20 - crew management module; FY21 - power factor correction module
24			383	IVR			138					Adding IVR to OMS
25			383	CapBank Automation			66	30	30	30	30	Adding feeder cap banks and making them SCADA controlled
26	47	105	362/367	New Wilmington Substation	650	267	151	4,572	4,465	730	730	Conceptual design, land, appraisals, substation and getaways.
27	49	123	364/365	Ballardvale Street, Wilmington - Pole Line Upgrade			225	225				Upgrade 8,000 circuit feet (5W9) to 556 spacer (2 circuits x 4,000 feet) and upgrade to 30 poles to accommodate reconductor upgrade and provide added space on pole line for up to two (2) additional feeders from proposed Wilmington substation.
28	n/a	TBD	364/365	Upton Drive - Pole Upgrade for Proposed Wilmington Substation/Related Improvements						173	173	Upgrade 4,000 circuit feet to 556 spacer and upgrade roughly 30 poles to accommodate the reconductor upgrade and provide added space on pole line for up to four additional future feeders from proposed Wilmington Substation.
29	na	TBD	362/365	Industrial Way Reconfiguration						1,000	1,000	Load redistribution Industrial Way/Analog
30	n/a	TBD	364/365	New Wilmington Sub to Salem Street/Middlesex Feed							450	Install 8,500 circuit feet of 556 spacer cable. The majority of pole upgrades to accommodate this feeder should have been completed during Ballardvale Street upgrades. This feeder will go from Ballardvale Street to the Salem Street / Middlesex Avenue intersection.
31	n/a	TBD	364/365	New Wilmington Sub to Andover Street Feeder, pick-up 3W5							225	Install 4,000 circuit feet of 556 spacer cable. The majority of pole upgrades to accommodate this feeder should have been completed during Upton Street upgrades. This feeder will go from Upton Drive to Andover Street.
32	51	TBD	364/365	Force Account (MassDOT): Main & Hopkins, R			225					Mass DOT project to widen Main Street and install traffic lights.

READING MUNICIPAL LIGHT DEPARTMENT

Capital Improvements FY18 thru FY23

\$ Shown in thousands

LINE #	PG #	Project #	FERC #	PROJECT NAME	FY18 Budget	FY18 Estimate	FY19 PLAN EST.	FY20	FY21	FY22	FY23	BRIEF DESCRIPTION
33	53	122	364/367	4W5 Getaway Replacement - Station 4			152					Station 4: Upgrade approximately 1,600 circuit feet of UG cable on West Street, R to 750 mcm cu for increased reliability and capacity.
34	55	132	364/367	4W6 Getaway Replacement - Station 4			157					Station 4: Upgrade approximately 1,700 circuit feet of UG cable on West Street, R to 750 mcm cu for increased reliability and capacity per Booth Reliability Study recommendations.
35	57	135	364/367	4W16 Getaway Replacement - Station 4			206					Station 4: Upgrade approximately 2,250 circuit feet of underground cable on Causeway Road/Lowell Street to 750 mcm cu for increased reliability and capacity.
36	59	112	370	AMI Mesh Network Expansion	120	120	121	150	150	150	150	Install relays, meters, and retrofit kits to expand the AMI mesh network. This will allow for end-of-the-line voltage readings.
37	61	126	397	Communication Equipment (Fiber Optic)	215	100	49	50	50	50	50	Materials to accommodate expanded use of fiber optic network for distribution automation and Eaton AMI system. In FY19 we will add approximately 12 nodes to the distribution automation fiber loop to expand communications options for substations and automation devices.
38	63	111	362	Substation Equipment Upgrade	50	40	50	30	30	30	30	Upgrade various equipment at substations to include TLC controls, remote racking devices, cable trays and various minor items. FY18: 35 kV insulators at Station 4 replaced. FY19: Remote racking device for breakers at Station 3.
39	65	115	395	Power/Lab and Tool Equipment			76	58	68	20	20	Purchase phasing meter/hi-pot - six units; meter accuracy tester; resistance tester (for substations); four point battery hydraulic press (2 units)
40	67	117	370	Meters	60	50	60	60	60	60	60	Purchase meters for stock - new construction, upgrades and failures.
41	69	116	368	Transformers and Capacitors	561	561	583	595	612	631	630	Purchase units for stock, new construction and proposed reliability projects.
42	71	175	364	Pole Replacement Program	209	209	263	222	229	235	235	Replace poles identified through the Pole Inspection Program (700 poles/year inspected). This will include transfers and replacement of secondary services as necessary. Fifty poles scheduled for replacement each year.
43	73	458	365	Secondary and Main Replacement Program	222	222	344	252	238	344	316	Repair as necessary secondary/main services and connectors prioritized by age as determined by system-wide inspection. FY19: Gerry Road and Drury Lane Area, LC, and Thomas Road Area, LC (in conjunction with Stepdown area upgrades)
44	77	107	365	13.8kV Upgrade (Step-down Area, etc.) - All Towns	71	71	331	452	216	613	367	Convert step-down areas to 13.8kV. Remove antiquated equipment and step-downs to lower losses and improve system efficiency. FY19: Gerry Road and Drury Lane Area, LC, and Thomas Road Area, LC (in conjunction with Secondary and Main Replacement Program)
45	81	106	367/368	UG Facilities Upgrades (URDs, Manholes, etc.) - All Towns	345	345	332	475	529	501	623	Replace primary and neutral cables and pad-ount transformers as needed in various aging URDs. Improved reliability. For the next five years, three subdivisions are planned to be upgraded per year. FY19: Arlene/Ella/Franklin area in Wilmington; Carter/Willard area in Lynnfield; and Sandspur Lane in North Reading.
46	85	various	369	Service Connections (Residential and Commercial)	156	150	142	165	170	176	200	Install new and upgraded residential and commercial services as requested.
47	87	various	various	Routine Construction	1,044	1,044	1,078	1,107	1,141	1,175	1,200	Miscellaneous capital expenses including: overhead and underground system upgrades, pole hits, station upgrades, porcelain cutout replacements, street light connections (new equipment), pole setting/transfers, new construction (underground divisions)
48	n/a		364/365	5W9 Reconductoring - Ballardvale Area, Wilmington				515	567			Upgrade to 556 spacer for capacity feeding Ballardvale area (Target).
49	n/a		364/365	4W23 Getaway Upgrade to 795				60	165			Station 4: Upgrade main feeder to Circuit 4W23 to 795 to address voltage and conductor capacity issues (1.1 miles)
50	n/a		364/365	4W24 Partial Circuit Reconductoring (Upgrade 4W24 to 795)				328	328			Station 4: Upgrade main feeder of Circuit 4W24 to 556 to address voltage and conductor capacity issues (1.5 miles)
51	n/a		364/365	5W5 Reconductoring - Wildwood to Upton Drive					214	214	214	Station 5: Upgrade 25,000 overhead circuit feet of 336 spacer cable on Wildwood, Woburn, and Andover Streets to 556 spacer cable.
52	n/a		367	4W28 Getaway Replacement						316		Station 4: Replace 3,400 feet of underground getaway to 750 mcm cu for increased reliability.
53	n/a		364/365	5W4/5W5 Getaway Replacement						119		Station 5: Upgrade feeders from substation to risers to increase feeders' ampacity.
54	n/a		367	4W7 Getaway Replacement							177	Station 4: Replace 1,900 feet of underground getaway to 750 mcm cu for increased reliability.
55	n/a		367	4W10 Getaway Replacement							177	Station 4: Replace 1,900 feet of underground getaway to 750 mcm cu for increased reliability.
56	n/a	096	390	Control Center Modifications		125						Modify the physical arrangement of the existing Control Center in order to meet grid modernization-optimization.
57	n/a	097	394	Power Washer and Vacuum	20	20						Replace power wash system in garage; add vacuum system.

**READING MUNICIPAL LIGHT DEPARTMENT**

**Capital Improvements FY18 thru FY23**

\$ Shown in thousands

LINE #	PG #	Project #	FERC #	PROJECT NAME	FY18 Budget	FY18 Estimate	FY19 PLAN EST.	FY20	FY21	FY22	FY23	BRIEF DESCRIPTION
58	n/a	121	383	Remote SCADA Room	75	50						NERC - SCADA redundancy - to be located at Station 3.
59	n/a	125	383	GIS	219	380						GIS model required data integrity and quality inspection, as well as comprehensive data collection.
60	n/a	138	362	Station 3 Reactors	561	325						Install two sets of reactors to lower fault current and incident energy or ARC flash at Station 3 per Booth Reliability Study recommendation.
61	n/a	133	362	Station 3: Relay Upgrades and SCADA Integration	76	21						Upgrade of SEL 351 relays to SEL 351-7 to enhance data delivery to SCADA.
62	n/a	130	362	Remote Terminal Unit (RTU) Replacement - Station 3		27						Upgrade RTU to add functionality of the existing SEL relays. RTU will be IP addressable and will include Ethernet connection for RMLD and NSTAR connection.
63	n/a	110	367	4W9 Getaway Replacement - Station 4		132						Upgrade 2,850 circuit feet of UG cable on Causeway Road and Lowell Street, R, with 750 MCM cu for increased reliability and capacity.
64	n/a	131	373	LED Street Light Implementation - All Towns	1,169	940						Full implementation. On target for completion by the end of FY18. Price of lights reduced. Labor costs increased for FY18 to include expense portion of project. Approximately 8,800 lights/ \$125k grant.
<b>TOTAL</b>					<b>7,686</b>	<b>8,009</b>	<b>7,570</b>	<b>11,510</b>	<b>11,017</b>	<b>8,313</b>	<b>8,463</b>	

**READING MUNICIPAL LIGHT DEPARTMENT**  
**Capital Improvements FY18 thru FY23**  
**\$ Shown in thousands**

	FY18 Budget	FY18 Estimate	FY19 PLAN EST.	FY20	FY21	FY22	FY23
<b>TABLE 1: PLANT VALUES &amp; DEPRECIATION EXPENSE:</b>							
Plant in Service (Beginning)	146,671	144,799	151,808	158,379	168,889	178,906	186,219
Additions	<b>7,686</b>	<b>8,009</b>	<b>7,570</b>	<b>11,510</b>	<b>11,017</b>	<b>8,313</b>	<b>8,463</b>
Adjustments (Property Retirement)	-1,000	-1,000	-1,000	-1,000	-1,000	-1,000	-1,000
Plant in Service (Ending)	153,356	151,808	158,379	168,889	178,906	186,219	193,682
Less Land and Land Rights	-1,266	-1,266	-1,266	-1,266	-1,266	-1,266	-1,266
Depreciable Plant in Service	152,090	150,542	157,113	167,623	177,640	184,953	192,416
Accumulated Reserve For Depreciation	-74,237	-72,994	-77,510	-82,224	-87,252	-92,581	-98,130
Net Plant in Service	<u>79,119</u>	<u>78,814</u>	<u>80,869</u>	<u>86,665</u>	<u>91,654</u>	<u>93,638</u>	<u>95,552</u>
<b>TABLE 2: DEPRECIATION FUND BALANCES:</b>							
Beginning Balance	767	2,407	2,450	3,523	4,530	2,924	2,250
Depreciation Rate (3%)	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Depreciation Expense	4,362	4,306	4,516	4,713	5,029	5,329	5,549
Bond Proceeds and Other Fund Sources	650	46	228	4,804	2,003	0	0
Operating Fund Transfer	<u>2,500</u>	<u>3,700</u>	<u>3,900</u>	<u>3,000</u>	<u>2,379</u>	<u>2,310</u>	<u>1,794</u>
Capital Improvement	-7,686	-8,009	-7,570	-11,510	-11,017	-8,313	-8,463
Ending Balance	<u>600</u>	<u>2,450</u>	<u>3,523</u>	<u>4,530</u>	<u>2,924</u>	<u>2,250</u>	<u>1,130</u>
<b>TABLE 3: BOND PROCEEDS &amp; OTHER FUND SOURCES:</b>							
Bond Proceeds for New Wilmington Substation	650			4,801	2,000		
<b>Force Account (MassDOT): Main &amp; Hopkins, R</b>			<b>225</b>				
Electric Vehicle Supply Equipment (EVSE)		3	3	3	3		
Mass DOT (Highway) West Street	-	43	-	-	-	-	-
	<u>650</u>	<u>46</u>	<u>228</u>	<u>4,804</u>	<u>2,003</u>	<u>0</u>	<u>0</u>

<b>REIMBURSEABLE JOBS:</b>	
DOER Grants Available: Electric Vehicle (FY18)	3
MASS DOT: West Street, R (FY17/18)	307
Mass DOER Grant: LED Streetlights (FY15/17)	125
<b>Force Account(MassDOT): Main &amp; Hopkins, R</b>	<b>225</b>

## CAPITAL PROJECT SUMMARY

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**Project Name:** RMLD Lighting (LED) Upgrade Program      **Project #:** 104

**Project Schedule:** FY18-19      **Project Manager:** Paul McGonagle,  
Facilities Manager

**Reason for Expenditure:**

Upgrade the existing lighting at 230 Ash Street, 218 Ash Street, and the substations with new LED fixtures. Energy use will be reduced when switching to LED. This will include interior and exterior light fixtures at the Ash Street campus, including all office spaces, the garage and bay area, and all lighting at the substations.

**Brief Description/Scope:**

FY18      A professional electrical engineering firm to design and develop specifications for LED lighting upgrade project. Electrical contractor will be hired to replace existing fixtures with LED retrofits as per electrical engineering recommendation. Work will begin at 230 Ash Street office facilities.

FY19      Work will continue to replace existing interior and exterior light fixtures at all sites as described above.

**Barriers:**

None anticipated at this time.

**Change in Scope of Work From Prior Fiscal Year:**

The scope includes the installation of new fixtures by an electrical contractor.

**Status Update:**

Not applicable.

## CAPITAL PROJECT COST SHEET

PROJECT NAME: RMLD Lighting (LED) Upgrade Program

SCHEDULE: FY18-19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
Line Department: 2-man crew - unit rate in weeks			\$6,455	\$6,267	\$920					
			\$0	\$0	\$0	Engineering and design (contractor)				\$ 8,000
			\$0	\$0	\$0	Electrical contractor				\$ 25,000
			\$0	\$0	\$0	LED fixtures and materials				\$ 92,000
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
Line Operations Supervision: unit rate in hours			\$106	\$103	\$21					
			\$0	\$0	\$0					\$ -
Engineering: unit rate in hours			\$80	\$78	\$21					\$ -
			\$0	\$0	\$0					\$ -
										\$ -
Senior Tech: unit rate in hours			\$82	\$80	\$21					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
Technical Services Manager: unit rate in hours			\$101	\$98	\$21					\$ -
			\$0	\$0	\$0					\$ -
						Police Details	week	\$2,427		\$ -
<b>TOTAL:</b>			<b>\$0</b>	<b>\$0</b>	<b>\$0</b>					<b>\$ 125,000</b>

**PROJECT TOTAL: \$125,000**



## CAPITAL PROJECT SUMMARY

---

**Project Name:** Parking Lot Upgrade at Ash Street      **Project #:** 140

**Project Schedule:** FY18-19      **Project Manager:** Paul McGonagle,  
Facilities Manager

**Reason for Expenditure:**

RMLD is planning to install additional electrical vehicle charging stations at the Ash Street facility. The parking lot area is to be expanded and reconfigured to accommodate the installation of these charging stations. RMLD will install one charging station in this newly reconfigured area in FY19.

**Brief Description/Scope:**

A professional engineering firm to develop construction drawings and bid documents for the construction of the parking lot, installation of conduit and wiring to accommodate future installation of additional charging stations, landscaping, line striping, and signage. A contractor will be hired to do the parking lot construction.

**Barriers:**

Unforeseen schedule changes.

**Change in Scope of Work From Prior Fiscal Year: Increase (Decrease)**

Not applicable.

**Status Update From Prior Fiscal Year:**

Not applicable.

## CAPITAL PROJECT COST SHEET

**PROJECT NAME:** Parking Lot Upgrade at 230 Ash Street

**SCHEDULE:** FY18-19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
			\$0	\$0	\$0	Engineering and design				\$ 30,000
			\$0	\$0	\$0	Construction				\$ 130,000
			\$0	\$0	\$0	Installation of conduit and wiring for charging stations (to accommodate future expansion)				\$ 20,000
			\$0	\$0	\$0	Line Striping				\$ 4,000
			\$0	\$0	\$0	Landscaping				\$ 36,000
			\$0	\$0	\$0	Electric Vehicle Charging Station				\$ 10,000
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103	\$21					
			\$0	\$0	\$0					\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78	\$21					\$ -
			\$0	\$0	\$0					\$ -
										\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98	\$21					\$ -
			\$0	\$0	\$0					\$ -
						Police Details	week	\$2,427		\$ -
<b>TOTAL:</b>			<b>\$0</b>	<b>\$0</b>	<b>\$0</b>					<b>\$ 230,000</b>

**PROJECT TOTAL: \$230,000**

## CAPITAL PROJECT SUMMARY

---

**Project Name:** Office Upgrades – 230 Ash Street      **Project #:** 098

**Project Schedule:** Annual      **Project Manager:** Paul McGonagle,  
Facilities Manager

**Reason for Expenditure:**

Annual allotment for general office upgrades at 230 Ash Street.

**Brief Description/Scope:**

In FY19, upgrade the Integrated Resources Division area in order to accommodate increased staffing. The room that was formerly a computer repair room needs to be repurposed to an office. Remodel will include modification to the walls, ceilings, flooring, electrical, sprinkler and HVAC. Office cubicle furniture will be purchased to accommodate new employees.

**Barriers:**

None anticipated at this time.

**Change in Scope of Work From Prior Fiscal Year:**

Not applicable.

**Status Update:**

Not applicable.

## CAPITAL PROJECT COST SHEET

PROJECT NAME: Office Upgrades - 230 Ash Street

SCHEDULE: FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
Line Department: 2-man crew - unit rate in weeks			\$6,455	\$6,267	\$920					
			\$0	\$0	\$0	Contractor to remodel IRD				\$ 26,000
			\$0	\$0	\$0	Cubicles for IRD				\$ 4,000
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
Line Operations Supervision: unit rate in hours			\$106	\$103	\$21					
			\$0	\$0	\$0					\$ -
Engineering: unit rate in hours			\$80	\$78	\$21					\$ -
			\$0	\$0	\$0					\$ -
										\$ -
Senior Tech: unit rate in hours			\$82	\$80	\$21					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
Technical Services Manager: unit rate in hours			\$101	\$98	\$21					\$ -
			\$0	\$0	\$0					\$ -
						Police Details	week	\$2,427		\$ -
<b>TOTAL:</b>			<b>\$0</b>	<b>\$0</b>	<b>\$0</b>					<b>\$ 30,000</b>

**PROJECT TOTAL: \$30,000**

## CAPITAL PROJECT SUMMARY

---

**Project Name:** Security System Upgrades – All Sites      **Project #:** 119

**Project Schedule:** Annual      **Project Manager:** Paul McGonagle,  
Facilities Manager

**Reason for Expenditure:**

The original access control system was installed in 1994 and was replaced in 2016 with a new open-source software system to provide more flexibility to adapt to the changing needs of the RMLD. Funds should be available to continually update equipment and perform maintenance and repair work on both the access control and the surveillance systems at the Ash Street campus and substations.

**Brief Description/Scope:**

Access control and surveillance systems upgrades over the next five (5) years:

- Add security fencing to server room
- Repair and replace card readers annually as needed
- Upgrade a portion of high-definition cameras annually as needed
- Upgrade cabling
- Repair/replace site lighting
- Re-key buildings and sensitive areas annually as needed

**Barriers:**

None anticipated at this time.

**Change in Scope of Work from Prior Fiscal Year:**

Not applicable.

**Status Update:**

Not applicable.

## CAPITAL PROJECT COST SHEET

PROJECT NAME: Security Upgrades - All Sites

SCHEDULE: FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
Line Department: 2-man crew - unit rate in weeks			\$6,455	\$6,267	\$920					
			\$0	\$0	\$0	Upgrade security equipment, card readers, cameras, lighting, fences, etc.				\$ 30,000
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
Line Operations Supervision: unit rate in hours			\$106	\$103	\$21					
			\$0	\$0	\$0					\$ -
Engineering: unit rate in hours			\$80	\$78	\$21					\$ -
			\$0	\$0	\$0					\$ -
										\$ -
Senior Tech: unit rate in hours			\$82	\$80	\$21					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
Technical Services Manager: unit rate in hours			\$101	\$98	\$21					\$ -
			\$0	\$0	\$0					\$ -
						Police Details	week	\$2,427		\$ -
<b>TOTAL:</b>			<b>\$0</b>	<b>\$0</b>	<b>\$0</b>					<b>\$ 30,000</b>

**PROJECT TOTAL: \$30,000**

## CAPITAL PROJECT SUMMARY

---

**Project Name:** Rolling Stock Replacement

**Project #:** 118

**Project Schedule:** Annual

**Project Manager:** Paul McGonagle,  
Facilities Manager

**Reason for Expenditure:**

Replace vehicles based on an eight to ten-year cycle to reduce maintenance costs and improve reliability. Vehicles removed from the fleet will be disposed of under RMLD Policy No. 2 "Surplus Material."

**Brief Description/Scope:**

Specifications, bids, and purchase orders will be completed for FY19 delivery of the following:

- one (1) new forklift with trade-in of one (1) 1999 Yale forklift
- one (1) new pick-up truck with trade-in of one (1) 2009 Ford F150
- one (1) new underground utility vehicle with trade-in of one (1) Ford E350

**Barriers:**

None anticipated at this time.

**Change in Scope of Work from Prior Fiscal Year: Increase (Decrease)**

Not applicable.

**Status Update:**

Not applicable.

## CAPITAL PROJECT COST SHEET

**PROJECT NAME:** Rolling Stock Replacement  
(vehicles, trailers, fork trucks)

**SCHEDULE:** FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
			\$0	\$0	\$0	Forklift	each	\$25,000	1.0	\$ 25,000
			\$0	\$0	\$0	Light duty pick-up truck	each	\$50,000	1.0	\$ 50,000
			\$0	\$0	\$0	Underground Utility Vehicle	each	\$200,000	1.0	\$ 200,000
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103	\$21					
			\$0	\$0	\$0					\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78	\$21					\$ -
			\$0	\$0	\$0					\$ -
										\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98	\$21					\$ -
			\$0	\$0	\$0					\$ -
						Police Details	week	\$2,427		\$ -
<b>TOTAL:</b>			\$0	\$0	\$0					\$ 275,000

**PROJECT TOTAL: \$275,000**



**Light Duty Vehicles**

Vehicle ID #	Year	Last Mileage Date	Current Mileage	Average Annual Maintenance Costs 2008-present	Department	Vehicle Type	FY 18	FY 19
7	2007	3/10/17	123,077	\$1,927.12	Customer Service	Ford Escape	<u>Trade/54</u>	
47	2009	3/10/17	128,208	\$2,031.24	Engineering	Ford F-150 PU		<u>Trade/56</u>
28	2007	3/10/17	40,026	\$1,302.27	Line	Ford E-350		<u>Trade/58</u>
New (54) Electric	2018	X	X	X	Customer Service	All Electric Vehicle	\$30,000.00	
New (56)	2018	X	X	X	Engineering	Pick up Truck		\$50,000.00
New (58)	2018	X	X	X	Line	Underground Utility Vehicle		\$200,000.00

**Heavy Duty Line Trucks**

Vehicle ID #	Year	Last Mileage Date	Current Mileage	Average Annual Maintenance Costs 2008-present	Department	Vehicle Type	FY 18	FY 18
9	2010	3/10/17	119,506	\$10,363.61	Line	Inter - 40' Bucket	<u>Trade/55</u>	
New (55)	2018	X	X	X	Line	Inter - 40'Bucket	\$200,000.00	

**Fork Lift**

Vehicle ID #	Year	Last Hour Date	Current Hours	Average Annual Maintenance Costs 2009-present	Department	Vehicle Type	FY 18	FY 19
FL-1	1999	3/10/17	772.5	0	Stock / Line / Station	Yale Fork Truck		<u>Trade/FL5</u>
New (FT-5)	2018	X	X	X	Stock / Line / Station	Fork Truck	X	\$25,000.00
<b>FY Totals:</b>							<u>\$230,000.00</u>	<u>\$275,000.00</u>
							FY 18	FY 19



## CAPITAL PROJECT SUMMARY

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**Project Name:** Electric Vehicle Supply Equipment (EVSE)      **Project #:** 099

**Project Schedule:** FY18-21      **Project Manager:** Jane Parenteau, Director of Integrated Resources

**Reason for Expenditure:**

RMLD will plan to install EVSEs in each of the four towns in the service territory. This will increase RMLD's kWh sales.

**Brief Description/Scope:**

Each EVSE is a dual charger. RMLD will work with each town to determine interest in locating a unit within the town and the appropriate location. RMLD will plan to install one EVSE per year.

**Barriers:**

None anticipated at this time.

**Change in Scope of Work From Prior Fiscal Year:**

Not applicable.

**Status Update:**

In FY18 RMLD installed the first EVSE at the RMLD offices located at 230 Ash Street, Reading.

## CAPITAL PROJECT COST SHEET

PROJECT NAME: Electrical Vehicle Supply Equipment (EVSE)

SCHEDULE: FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
Line Department: 2-man crew - unit rate in weeks			\$6,455	\$6,267	\$920					
			\$0	\$0	\$0	One EVSE for installation in RMLD service territory.	each	\$10,000	1.0	\$ 10,000
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
Line Operations Supervision: unit rate in hours			\$106	\$103	\$21					
			\$0	\$0	\$0					\$ -
Engineering: unit rate in hours			\$80	\$78	\$21					\$ -
			\$0	\$0	\$0					\$ -
										\$ -
Senior Tech: unit rate in hours			\$82	\$80	\$21					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
Technical Services Manager: unit rate in hours			\$101	\$98	\$21					\$ -
			\$0	\$0	\$0					\$ -
						Police Details	week	\$2,427		\$ -
<b>TOTAL:</b>			<b>\$0</b>	<b>\$0</b>	<b>\$0</b>					<b>\$ 10,000</b>

**PROJECT TOTAL: \$10,000**

## CAPITAL PROJECT SUMMARY

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**Project Name:** Battery Storage (Station 3, NR)

**Project #:** 101

**Project Schedule:** FY19

**Project Manager:** Tom Ollila, Integrated Resources Engineer

**Reason for Expenditure:**

RMLD has been awarded a three-year, \$1m grant from Mass Department of Energy Resources (DOER) to install a 5 MW (10 MWh) grid scale energy storage system at the North Reading substation to provide peak shaving services. The goal for commercial operation date is December 15, 2018. Project contracts, license agreements, system impact study, etc., are now underway or in negotiations. An amount of \$100,000 has been allocated to the Capital Budget for substation integration into battery unit.

**Brief Description/Scope:**

To be determined.

**Barriers:**

None anticipated at this time.

**Change in Scope of Work From Prior Fiscal Year: Increase (Decrease)**

Not applicable

**Status Update From Prior Fiscal Year:**

Not applicable



# CAPITAL PROJECT SUMMARY

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**Project Name:** Hardware Upgrades

**Project #:** 127

**Project Schedule:** Annual

**Project Manager:** Mark Uvanni, IT Manager

**Reason for Expenditure:**

This is an amount annually reserved for failed and/or obsolete computer and related equipment. This budget item is also used for unforeseen purchases, which may be necessary.

**Brief Description/Scope:**

In addition to the standard hardware purchases described above, we anticipate the following:

- EMC SAN Unity 300 to replace VNXe3150 that has reached end of life (per EMC).
- Network updates to wireless mesh.
- Network updates to accommodate feeders.
- EMC Data Domain DD2200 to replace current DD160 that will reach end of life (per EMC).

**Barriers:**

None anticipated at this time.

**Change in Scope of Work From Prior Fiscal Year:**

Not applicable.

**Status Update:**

Not applicable.

## CAPITAL PROJECT COST SHEET

PROJECT NAME: Hardware Upgrades

SCHEDULE: FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
			\$0	\$0	\$0	General hardware purchases				\$ 70,000
			\$0	\$0	\$0	EMC SAN Unity 300 to replace VNxe3150				\$ 26,000
			\$0	\$0	\$0	Network updates to wireless mesh				\$ 8,000
			\$0	\$0	\$0	Network updates (to accomodate feeders)				\$ 5,000
			\$0	\$0	\$0	EMC DD2200 Data Domain				\$ 16,000
			\$0	\$0	\$0					\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103	\$21					
			\$0	\$0	\$0					\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78	\$21					\$ -
			\$0	\$0	\$0					\$ -
										\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98	\$21					\$ -
			\$0	\$0	\$0					\$ -
						Police Details	week	\$2,427		\$ -
<b>TOTAL:</b>			\$0	\$0	\$0					\$ 125,000

**PROJECT TOTAL: \$125,000**



# CAPITAL PROJECT SUMMARY

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**Project Name:** Software and Licensing

**Project #:** 128

**Project Schedule:** Annual

**Project Manager:** Mark Uvanni, IT Manager

**Reason for Expenditure:**

Each year RMLD must renew existing software licenses and purchase new software, either to update existing users or for new users. Additionally, new software may be added at the request of various operating units. This item includes these ad hoc purchases as well as more specific items (outlined below) which are anticipated at this time.

**Brief Description/Scope:**

In addition to the standard software and licensing purchases described above, we anticipate the following:

- Custom programming/development for GIS/GPS, OM/fixed network, continued CIS integration.
- Substation asset management software to track and trend RMLD's substation assets testing and maintenance. This software could also provide mobile deployment of tablets to upload test results.
- Microsoft Great Plains Work Order Management System. This is fully integrated with our existing ERP software and fully integrated to ESRI GIS. The software is provided by Harris Corp (Cogsdale) and installed by them as well. This will be a two-year project, with \$75,000 budgeted each year (FY19 and FY20).
- SharePoint needs to be completely re-built with Microsoft's "modern" design tools. All groups and security levels needs to be modified. This requires specific expertise with SharePoint.

**Barriers:**

None anticipated at this time.

**Change in Scope of Work From Prior Fiscal Year:**

Not applicable.

**Status Update:**

Not applicable.

## CAPITAL PROJECT COST SHEET

PROJECT NAME: Software and Licensing

SCHEDULE: FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
			\$0	\$0	\$0	General software purchases				\$ 50,000
			\$0	\$0	\$0	Custom programming/development				\$ 200,000
			\$0	\$0	\$0	Substation Asset Management Software				\$ 80,000
			\$0	\$0	\$0	Microsoft Great Plains Work Order Management (\$150k total; \$75K FY19 and \$75K FY20)				\$ 75,000
			\$0	\$0	\$0	Re-design SharePoint				\$ 20,000
			\$0	\$0	\$0					\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103	\$21					
Supervision of Line crews			\$0	\$0	\$0					\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78	\$21					\$ -
Pole Foreman, 605As, construction drawings, switching orders, etc.			\$0	\$0	\$0					\$ -
										\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98	\$21					\$ -
			\$0	\$0	\$0					\$ -
						Police Details	week	\$2,427		\$ -
<b>TOTAL:</b>			<b>\$0</b>	<b>\$0</b>	<b>\$0</b>					<b>\$ 425,000</b>

**PROJECT TOTAL: \$425,000**

## CAPITAL PROJECT SUMMARY

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**Project Name:** Woburn Street (West Street to Concord Street) W Pole Line Upgrade      **Project #:** 137

**Project Schedule:** FY18-19      **Project Manager:** John McDonagh,  
General Line Foreman

**Reason for Expenditure:**

The pole line on Woburn Street, Wilmington, between Concord Street and West Street currently has three (3) spacer cable circuits. These poles are under-sized, under-classed, and over 30 years old. This project will upgrade the poles to the proper strength and height class, create the proper NESC clearances between utilities and benefit the long-term reliability of the system.

**Brief Description/Scope:**

Replace approximately twenty-four (24) main line poles with 55' poles and four (4) stub poles with 40' poles along a section of Woburn Street in Wilmington between Concord Street and West Street. Frame poles with new hardware and transfer the three (3) spacer cable circuits, replace five (5) transformers, transfer one (1) primary lateral, reconductor with secondary cable, transfer/replace 32 services, and 14 street lights. Street lights will be changed to LEDs (as part of the LED Upgrade Project).

**Barriers:**

Although this is a Verizon set area, RMLD will set the poles because this project requires 55' poles.

**Change in Scope of Work From Prior Fiscal Year:**

Not applicable.

**Status Update:**

Not applicable.

## CAPITAL PROJECT COST SHEET

**PROJECT NAME:** Woburn Street, W (West Street to Concord Street), Pole Line Upgrade

**SCHEDULE:** FY18 -FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
Set (24) 55' class 1 poles and (4) 40' poles. Frame 28 poles	18	3	\$116,194	\$18,800	\$19,320	55' poles	each	\$800.00	28.0	\$ 22,400
						40' poles	each	\$400.00	4.0	\$ 1,600
Transfer (28) poles/three circuits	9	3	\$58,097	\$18,800	\$11,040	Miscellaneous hardware	per pole	\$800.00	28.0	\$ 22,400
Install five (5) transformers	1	1	\$6,455	\$6,267	\$1,840					
Install 3,000' of 4/O-3C secondary main	3		\$19,366	\$0	\$2,760	4/O secondary main triplex AAAC	foot	\$1.23	3000.0	\$ 3,690
Install new services (approximately 32)	2		\$12,910	\$0	\$1,840	1/O service triples AAAC	foot	\$0.90	3200.0	\$ 2,880
										\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103						
Supervision of Line crews	100	32	\$10,578	\$3,286						\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78						\$ -
Switching and off hours outages for cutovers.	40	40	\$3,205	\$3,111		Contract engineering services for pole line design	design	\$9,300	1.0	\$ 9,300
			\$0	\$0						\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
Switching as needed	8		\$657	\$0	\$168					\$ -
			\$0	\$0	\$0					\$ -
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98						\$ -
			\$0	\$0						\$ -
						Police Details	week	\$2,427	20.0	\$ 48,550
<b>TOTAL:</b>			<b>\$227,463</b>	<b>\$50,265</b>	<b>\$36,968</b>					<b>\$ 110,820</b>

**PROJECT TOTAL: \$425,516**

## CAPITAL PROJECT SUMMARY

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**Project Name:** 115kV Transmission Pole Upgrade, R

**Project #:** 108

**Project Schedule:** FY18-19

**Project Manager:** John McDonagh,  
General Line Foreman

**Reason for Expenditure:**

The transmission lines that feed Station 4 were built in 1970. The poles, davit arms, insulators, guys, etc., are reaching their end of life and in need of replacement/upgrade. PLM has done a design to bring the poles and hardware up to today's standards. The 211-503 was completed in FY18. The 211-504 line will be completed in FY19.

**Brief Description/Scope:**

The RMLD will purchase all the materials needed to replace six (6) poles on the 211-504 line in FY19. The messenger and phase conductors will be re-used as they are the proper size and are in good condition. Pole 211-504 - 4 was replaced in the mid 90's. Although this pole will not be replaced, all the guys, anchors, insulators, etc., will be replaced.

**Barriers:**

This work will require the RMLD to secure a transmission line contractor and a transmission line outage from Eversource. During this time, Station 4 will be running on one line.

**Change in Scope of Work From Prior Fiscal Year:**

Not applicable.

**Status Update:**

Not applicable.

## CAPITAL PROJECT COST SHEET

**PROJECT NAME:** 115kV Transmission Pole Upgrade (211-504 line)

**SCHEDULE:** FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
			\$0	\$0	\$0	Transmission Line Contractor for 211-504 line	job	\$160,000	1	\$ 160,000
			\$0	\$0	\$0	Various materials (insulators, davit arms, poles, anchors, guy grips, etc.)	per pole	\$7,100	7	\$ 49,700
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103						
Project Oversight	40		\$4,231	\$0						\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78						\$ -
Switching and monitoring.	31	9	\$2,484	\$700						\$ -
										\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
Switching and testing.	20		\$1,643	\$0	\$420					\$ -
			\$0	\$0	\$0					\$ -
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98						\$ -
Switching and monitoring.	33		\$3,338	\$0						\$ -
						Police Details	week	\$2,427		\$ -
<b>TOTAL:</b>			<b>\$11,696</b>	<b>\$700</b>	<b>\$420</b>					<b>\$ 209,700</b>

**PROJECT TOTAL: \$222,516**

## CAPITAL PROJECT SUMMARY

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**Project Name:** 35 kV Underground Cable Upgrade  
Station 4, 5 and RR ROW      **Project #:** 109

**Project Schedule:** FY18-20      **Project Manager:** Brian Smith  
Senior Distribution Engineer

**Reason for Expenditure:**

The 35 kV underground cables that make up circuits 4P2 and 4P9 are original to the building at the Station 5 and are over 36 years old. The cables have reached their end of life. The riser structures for 4P2 and 4P9 on the ROW at Causeway Road are also near the end of life and will be replaced.

**Brief Description/Scope:**

Replace approximately 16,200 feet of 350 mcm CU underground cable on circuits 4P2 and 4P9 at Station 4, Station 5 and on the RR ROW. Replace riser pole structures at ROW at Causeway Road for 4P2 and 4P9.

**FY18:** Replace 4,500' of 4P2 at Station 4. Replace riser pole structures at ROW at Causeway Road for 4P2.

**FY19:** Replace 4,500' of 4P9 at Station 4. Replace riser pole structures at ROW at Causeway Road for 4P9.

**FY20:** Replace 6,300' of 4P9 on the railroad right of way, and 900' at Station 5.

**Barriers:**

This project will need to be scheduled for light load periods. While either circuit is out of service, Station 5 will be running on one line.

**Change in Scope of Work From Prior Fiscal Year:**

Not applicable.

**Status Update:**

Not applicable.

## CAPITAL PROJECT COST SHEET

**PROJECT NAME:** 35kV Underground Cable Upgrade  
4P9 Substation 4, R

**SCHEDULE:** FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
Remove and install 4,500' of 35kV, 350CU UG cable - Station 4 UG	5		\$32,276	\$0	\$4,600	35kV cable, 350 CU	foot	\$15	6000.0	\$ 90,000
Terminations/splicing of cable	4		\$25,821	\$0	\$3,680	Underground contractor assist	week	\$7,054	4.5	\$ 31,741
			\$0	\$0	\$0	Termination/splice kits	each	\$350	48.0	\$ 16,800
Reconstruct 35kV riser structure	3.5		\$22,593	\$0	\$3,220	Poles/miscellaneous materials	each	\$1,000	2.0	\$ 2,000
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103						
Supervision of Line crews	40		\$4,231	\$0						\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78						\$ -
Project management, switching/ tagging	40		\$3,205	\$0						\$ -
										\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
Testing, switching, tagging	80		\$6,574	\$0	\$1,680					\$ -
			\$0	\$0	\$0					\$ -
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98						\$ -
Testing, switching, tagging	40		\$4,046	\$0						\$ -
						Police Details	week	\$2,427		\$ -
<b>TOTAL:</b>			<b>\$98,746</b>	<b>\$0</b>	<b>\$13,180</b>					<b>\$ 140,541</b>

**PROJECT TOTAL: \$252,467**



## CAPITAL PROJECT SUMMARY

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**Project Name:** Pad-mount Switchgear Upgrade at Industrial Parks      **Project #:** 102

**Project Schedule:** Annual      **Project Manager:** Peter Price,  
Senior Distribution Engineer

**Reason for Expenditure:**

Increase distribution system protection in the underground industrial parks in Wilmington and North Reading as well as the three-phase underground distribution areas in Reading, i.e., River Park Drive, Jonspin Road, Haven Street, Woburn Street, Industrial Way, etc.

**Brief Description/Scope:**

Purchase new units to replace live front pad-mounted switchgear. New units will be dead front with provisions for remote/supervisor control. There are currently 29 units system-wide.

**Barriers:**

None anticipated at this time.

**Change in Scope of Work From Prior Fiscal Year: Increase (Decrease)**

Not applicable.

**Status Update From Prior Fiscal Year:**

The Department is working to complete the replacement of switch-1 on Jonspin Road, Wilmington, switch-2 on River Park Drive, North Reading, switch-2 and switch-3 on Concord Street, North Reading, switch-1 and switch-2 at 80 Industrial Way, Wilmington and switch-1 on Woburn Street at Reading Town Hall.

## CAPITAL PROJECT COST SHEET

**PROJECT NAME:** Pad-mount Switchgear Upgrades at Industrial Parks

**SCHEDULE:** FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
Replace pad-mount switchgear		2	\$0	\$12,534	\$1,840	Trayer pad-mounted switches (2-220A, 2-600A positions)	each	\$62,500	5	\$ 312,500
Make up t-bodies and LB elbows	2		\$12,910	\$0	\$1,840	T-bodies, LB elbows, miscellaneous connectors for 12 primary cables	each	\$300	12	\$ 3,600
Splice out line and load side primary cables		2	\$0	\$12,534	\$1,840	Splices for line and load side primaries	each	\$250	12	\$ 3,000
			\$0	\$0	\$0	Primary cable for piece outs	foot	\$20	1000	\$ 20,000
			\$0	\$0	\$0	Excavation contractor to adjust pad for new switchgear	each	\$8,000	5	\$ 40,000
			\$0	\$0	\$0					\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103						
Supervision of Line crews	40	24	\$4,231	\$2,465						\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78						\$ -
Prepare switching order, coordinate outages, pad modifications, order materials, etc.	40	48	\$3,205	\$3,733						\$ -
										\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98						\$ -
			\$0	\$0						\$ -
						Police Details	week	\$2,427		\$ -
<b>TOTAL:</b>			<b>\$20,346</b>	<b>\$31,265</b>	<b>\$5,520</b>					<b>\$ 379,100</b>

**PROJECT TOTAL: \$436,232**

# CAPITAL PROJECT SUMMARY

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**Project Name:** Grid Modernization & Optimization

**Project #:** 103

**Project Schedule:** On-going **Project Manager:** Hamid Jaffari, Director of Engineering & Operations  
Peter Price, Senior Distribution Engineer  
Brian Smith, Senior Distribution Engineer

**Reason for Expenditure:**

In compliance with DPU/OSHA Order DPU 12-76B, increase system reliability, modernize/optimize system operation and functionality, decrease system losses and expenses for labor and truck rolls related to outage management.

**Brief Description/Scope:**

Continue implementation of grid modernization/optimization road map including installation and integration of smart switches, IntelliRupters, and capacitor banks and controls. Installation and integration of outage management system (OMS) with an IVR system to optimize outage restoration process. Cyber security, simulator, fiber rationale connection, fault detection, economic dispatch, and overall system integration, including GIS and AMI.

**Barriers:**

Technology/software integration; merging old technology with new emerging technology.

**Change in Scope of Work From Prior Fiscal Year:**

Addition of IVR system.

**Status Update:**

We anticipate 12 switches and two IntelliRupters will be installed by the end of FY18. We anticipate the OMS system, customer portal, and outage dashboard to be operational by the end of FY18.

## CAPITAL PROJECT COST SHEET

**PROJECT NAME:** Grid Modernization & Optimization  
Scada-Mate Switches

**SCHEDULE:** FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
Install Scada-Mate Switches and controls	1		\$6,455	\$0	\$920	Scada-Mate CX Switch	each	\$35,000	4	\$ 140,000
Replace pole, install by-pass disconnects, transfer pri, sec, etc.	7		\$45,187	\$0	\$6,440	55' pole, x-arms, brackets, guys, anchors, miscellaneous hardware, etc.	each switch	\$2,000	4	\$ 8,000
			\$0	\$0	\$0	6801 license	each switch	\$2,000	4	\$ 8,000
			\$0	\$0	\$0	IntelliTeam License	each switch	\$1,000	4	\$ 4,000
Install three (3) repeaters/radios per switch.	0.4		\$2,582	\$0	\$368	S&C repeaters/radios	each	\$3,000	12	\$ 36,000
			\$0	\$0	\$0					\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103						
Supervision of Line crews	160		\$16,925	\$0						\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78						\$ -
Pole Foreman, construction drawings, etc.	40		\$3,204.80	\$0						\$ -
Prepare switching orders, order materials, establish communication	40		\$3,204.80	\$0						\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
Controls, programming, commissioning, etc.	64		\$5,259	\$0	\$1,344					\$ -
			\$0	\$0	\$0					
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98						\$ -
Controls, programming, commissioning, etc.	32		\$3,237	\$0						\$ -
						Police Details	week	\$2,427	4.0	\$ 9,710
<b>TOTAL:</b>			<b>\$86,054</b>	<b>\$0</b>	<b>\$9,072</b>					<b>\$ 205,710</b>

**PROJECT TOTAL: \$300,836**

## CAPITAL PROJECT COST SHEET

**PROJECT NAME:** Grid Modernization and Optimization  
IntelliRupters

**SCHEDULE:** FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
Install IntelliRupter Switch	1		\$6,455	\$0	\$920	IntelliRupter switch	each	\$40,000	2	\$ 80,000
Replace pole, install by-pass disconnects, transfer pri, sec, etc	3		\$19,366	\$0	\$2,760	55' pole, cross-arms, brackets, guys, anchors, miscellaneous hardware, etc.	each	\$2,000	2	\$ 4,000
			\$0	\$0	\$0	IntelliRupter license	each	\$2,000	2	\$ 4,000
			\$0	\$0	\$0	IntelliTeam license	each	\$1,000	1	\$ 1,000
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103						
			\$0	\$0						\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78						\$ -
Pole Foreman, construction drawings, etc.	24		\$1,923	\$0						\$ -
Prepare switching orders, order materials, establish communication	24		\$1,923	\$0						\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
Controls, programming, commissioning, etc.	64		\$5,259	\$0	\$1,344					\$ -
			\$0	\$0	\$0					
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98						\$ -
Controls, programming, commissioning, etc.	16		\$1,618	\$0						\$ -
						Police Details	week	\$2,427	2.0	\$ 4,855
<b>TOTAL:</b>			<b>\$36,544</b>	<b>\$0</b>	<b>\$5,024</b>					<b>\$ 93,855</b>

**PROJECT TOTAL: \$135,423**

## CAPITAL PROJECT COST SHEET

**PROJECT NAME:** Grid Modernization & Optimization  
SCADA Upgrade

**SCHEDULE:** FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
			\$0	\$0	\$0	Software upgrades for SCADA				\$ 21,000
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103						
			\$0	\$0						\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78						\$ -
			\$0	\$0						\$ -
										\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98						\$ -
			\$0	\$0						\$ -
						Police Details	week	\$2,427		\$ -
<b>TOTAL:</b>			\$0	\$0	\$0					\$ 21,000

**PROJECT TOTAL: \$21,000**

### CAPITAL PROJECT COST SHEET

**PROJECT NAME:** Grid Modernization & Optimization  
Software Integration

**SCHEDULE:** FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
			\$0	\$0	\$0	Services from vendor for integration of AMI and various devices		\$10,000	1	\$ 10,000
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103						\$ -
			\$0	\$0						\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78						\$ -
Work with vendor for software integration	24		\$1,923	\$0						\$ -
										\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
Work with vendor for software integration	24		\$1,972	\$0	\$504					\$ -
			\$0	\$0	\$0					\$ -
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98						\$ -
			\$0	\$0						\$ -
						Police Details	week	\$2,427		\$ -
<b>TOTAL:</b>			<b>\$3,895</b>	<b>\$0</b>	<b>\$504</b>					<b>\$ 10,000</b>

**PROJECT TOTAL: \$14,399**

## CAPITAL PROJECT COST SHEET

**PROJECT NAME:** Grid Modernization & Optimization  
IVR Integration

**SCHEDULE:** FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
			\$0	\$0	\$0	IVR System	each	\$100,000	1	\$ 100,000
			\$0	\$0	\$0	IVR System integration with Survalent (license and commissioning)	each	\$32,000	1	\$ 32,000
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103						
			\$0	\$0						\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78						\$ -
Work with new vendor and Survalent for project integration	80		\$6,410	\$0						\$ -
										\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
			\$0	\$0						\$ -
			\$0	\$0						\$ -
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98	\$0					\$ -
			\$0	\$0						\$ -
						Police Details	week	\$2,427		\$ -
<b>TOTAL:</b>			<b>\$6,410</b>	<b>\$0</b>	<b>\$0</b>					<b>\$ 132,000</b>

**PROJECT TOTAL: \$138,410**



## CAPITAL PROJECT COST SHEET

**PROJECT NAME:** Grid Modernization & Optimization  
Capacitor Bank Automation

**SCHEDULE:** FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
			\$0	\$0	\$0	CBC 800 CAP controller	each	\$2,200	6.0	\$ 13,200
			\$0	\$0	\$0	RFN 1200 radio	each	\$800	6.0	\$ 4,800
			\$0	\$0	\$0	Miscellaneous	per controller	\$400	6.0	\$ 2,400
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103						
			\$0	\$0						\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78						\$ -
Connecting to Eaton System and SCADA switching	144		\$11,537	\$0						\$ -
										\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
Controls, programming, commissioning, installation, etc.	192		\$15,777	\$0	\$4,032					\$ -
			\$0	\$0	\$0					\$ -
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98						\$ -
Controls, programming, commissioning, installation, etc.	144		\$14,566	\$0						\$ -
						Police Details	week	\$2,427		\$ -
<b>TOTAL:</b>			<b>\$41,880</b>	<b>\$0</b>	<b>\$4,032</b>					<b>\$ 20,400</b>

**PROJECT TOTAL: \$66,312**



## CAPITAL PROJECT SUMMARY

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**Project Name:** New Wilmington Substation      **Project #:** 105

**Project Schedule:** FY17-23      **Project Manager:** Manole Agouridis,  
Distribution Engineer

**Reason for Expenditure:**

Substation 5 has reached the end of its useful life. The transformer and switchgear need major upgrades / repairs to keep substation operational. The new Wilmington substation will be a replacement for Substation 5, while also providing added benefits to RMLD.

**Brief Description/Scope:**

Install a new 115kV / 13.8 kV substation in Wilmington in the Ballardvale area. The new substation will include two (2) 60 MVA transformers and 15kV switchgear with eight (8) feeder breaker positions. It shall also provide backup and load relief for both Substation 3 and Substation 4.

**Barriers:**

Availability of land.

**Change in Scope of Work From Prior Fiscal Year: Increase (Decrease)**

Not applicable.

**Status Update From Prior Fiscal Year:**

RMLD continues to explore options for location of the new substation.

## CAPITAL PROJECT COST SHEET

**PROJECT NAME:** Wilmington Substation

**SCHEDULE:** FY17-23

DESCRIPTION	COST
Purchase Land	\$ 650,000
Construction Contractor	\$ 1,800,000
Power Transformers	\$ 2,000,000
15kV Switchgear	\$ 2,000,000
Substation Equipment Package	\$ 600,000
Testing and Commissioning	\$ 120,000
Environmental Permitting	\$ 25,000
Distribution Phase 1	\$ 869,000
Distribution Phase 2	\$ 2,329,000
Indirects (includes RMLD labor)	\$ 505,000
Contingency	\$ 400,000
	<b>\$ 11,298,000</b>

## CAPITAL PROJECT SUMMARY

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**Project Name:** Ballardvale Street Pole Line Upgrade, W Pole Line Upgrade

**Project #:** 123

**Project Schedule:** FY19-20

**Project Manager:** Manole Agouridis,  
Distribution Engineer

**Reason for Expenditure:**

To upgrade the pole line starting near the location of the proposed Wilmington substation and ending at Route 125. This shall include pole upgrades and attached feeder upgrades, and associated work to install provisions for future circuits from the proposed substation.

**Brief Description/Scope:**

The aforementioned, one-mile section of Ballardvale Street spans 30 poles that starts at the location of the proposed Wilmington substation and ends at the intersection of Route 125. This project will result in the upgrade of almost all 30 poles, and shall include the reconductoring of circuits 5W5 and 5W9 in this area. In addition, poles with added height will be installed for the potential to install additional circuits from the proposed Wilmington substation. The idea is to perform these upgrades ahead of new substation construction so these two projects are NOT occurring concurrently and disrupting the Ballardvale Street area.

**Barriers:**

This project shall coincide with the proposed Wilmington substation location. If the location of the substation is moved, this capital project shall be revisited/reprioritized accordingly.

**Change in Scope of Work From Prior Fiscal Year: Increase (Decrease)**

Not applicable.

**Status Update From Prior Fiscal Year:**

Not applicable.

**CAPITAL PROJECT COST SHEET**

PROJECT NAME: Ballardvale Street - Pole Line Upgrade, W

SCHEDULE: FY19 -FY20

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
Set (30) 55' Class 1 poles	12		\$77,463	\$0	\$11,040	55'-1 poles	each	\$800.00	30	\$ 24,000
Transfer (30) poles	12		\$77,463	\$0	\$11,040	15 kV Hendrix brackets, miscellaneous hardware, miscellaneous primary connectors (spacers, insulators, etc.)	per pole	\$800.00	30	\$ 24,000
Setup for (8,000') spacer install	4		\$25,821	\$0	\$3,680	0.052 messenger wire	foot	\$1.23	8000	\$ 9,840
Pull in and install (8,000') 556	4		\$25,821	\$0	\$3,680	15kV, 556 AL spacer cable	foot	\$2.02	24000	\$ 48,480
Transfer secondaries, services, street lights, and fiber optic cable	2		\$12,910	\$0	\$1,840	Miscellaneous secondary hardware, brackets and connectors	per pole	\$500.00	30	\$ 15,000
			\$0	\$0	\$0					\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103						
Supervision of Line crews	200		\$21,156	\$0						\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78						\$ -
Prepare construction documents, Pole foreman, 605As	110		\$8,813	\$0						\$ -
Switching and off-hour outages for cutovers.	40	40	\$3,205	\$3,111						\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
Switching as needed.	8		\$657	\$0	\$168					\$ -
			\$0	\$0	\$0					\$ -
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98						\$ -
			\$0	\$0						\$ -
						Police Details	week	\$2,427	17.0	\$ 41,267
<b>TOTAL:</b>			<b>\$253,310</b>	<b>\$3,111</b>	<b>\$31,448</b>					<b>\$ 162,587</b>

\$ 121,320

**PROJECT TOTAL: \$450,456**

## CAPITAL PROJECT SUMMARY

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**Project Name:** Force Account - Massachusetts Department of Transportation: Main and Hopkins, R **Project #:** TBD

**Project Schedule:** FY19 **Project Manager:** Peter Price,  
Senior Distribution Engineer

**Reason for Expenditure:**

The Massachusetts Department of Transportation has notified RMLD of a project that may be planned for FY19. We are reserving an amount in the Capital Budget for this project.

**Brief Description/Scope:**

MassDOT has plans to improve the traffic flow at the intersection of Main Street and Hopkins Street in Reading. This plan includes the widening of Main Street and the installation of traffic signals. This project will require the RMLD to relocate up to 12 poles and petition and install up to three (3) guy poles along Main Street and Hopkins Street. This project may require the installation of laminated poles.

**Barriers:**

Verizon set area. Some poles will need to be petitioned. MassDOT will need to secure easements as needed for poles, anchors and guys at several locations. Project also involves the relocation of the UG service to the restaurant at 107 Main Street.

**Change in Scope of Work from Prior Fiscal Year: Increase (Decrease)**

Not applicable.

**Status Update From Prior Fiscal Year:**

Not applicable.





## CAPITAL PROJECT SUMMARY

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**Project Name:** 4W5 Getaway Replacement, W

**Project #:** 122

**Project Schedule:** FY19

**Project Manager:** Manole Agouridis, Distribution Engineer

**Reason for Expenditure:**

To upgrade 1,515 circuit feet of underground cable from Station 4 to West Street. The cable is being replaced to add capacity and replace the existing getaway, which is nearing the end of its useful life.

**Brief Description/Scope:**

The 4W5 getaway has five (5) sections of underground cable. It is assumed this project will only focus on replacing the existing 500 CU cable with 750 CU cable.

**Barriers:**

Potential unforeseen issues with existing duct bank, conduit, and/or manholes that need to be addressed.

**Change in Scope of Work From Prior Fiscal Year: Increase (Decrease)**

Not applicable.

**Status Update From Prior Fiscal Year:**

Not applicable.

## CAPITAL PROJECT COST SHEET

PROJECT NAME: 4W5 Getaway Replacement, W

SCHEDULE: FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
Prepping for new cable installation loading trailers, pumping down manholes, etc.	2		\$12,910	\$0	\$1,840	15kV cable, 750 MCM 1/C , strand shield, EPR	foot	\$14.43	4545.0	\$ 65,584
New cable installation - pulling in cable	2		\$12,910	\$0	\$1,840					\$ -
Terminating and splicing , and wrapping cable, labeling, etc.	2		\$12,910	\$0	\$1,840	Underground contractor assist	week	\$7,054	1.2	\$ 8,464
			\$0	\$0	\$0	Cold shrink splice or terminations, and ancillary	point	\$1,060	6.0	\$ 6,358
Existing cable removal, and scrapping cable	2		\$12,910	\$0	\$1,840					\$ -
			\$0	\$0	\$0					\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103						
Supervision of Line crews	53		\$5,606	\$0						\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78						\$ -
Project management, write, review and administer switching. Create work order	40		\$3,205	\$0						\$ -
										\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
Switching cable out and back	8		\$657	\$0	\$168					\$ -
Testing and commissioning of new cable.	8		\$657	\$0	\$168					
			\$0	\$0	\$0					
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98						\$ -
Oversight of work in substation, switching review	8		\$809	\$0						\$ -
						Police Details	week	\$2,427	0.5	\$ 1,214
<b>TOTAL:</b>			<b>\$62,577</b>	<b>\$0</b>	<b>\$7,696</b>					<b>\$ 81,621</b>

**PROJECT TOTAL: \$151,894**

# CAPITAL PROJECT SUMMARY

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**Project Name:** 4W6 Getaway Replacement, W

**Project #:** 132

**Project Schedule:** FY19

**Project Manager:** Manole Agouridis, Distribution Engineer

**Reason for Expenditure:**

To upgrade 1,635 circuit feet of underground cable from Station 4 to West Street. The cable is being replaced to add capacity and replace the existing getaway, which is nearing the end of its useful life.

**Brief Description/Scope:**

The 4W6 getaway has five (5) sections of underground cable. It is assumed this project will only focus on replacing the existing 500 CU cable with 750 CU cable.

**Barriers:**

Potential unforeseen issues with existing duct bank, conduit, and/or manholes that need to be addressed.

**Change in Scope of Work From Prior Fiscal Year: Increase (Decrease)**

Not applicable.

**Status Update From Prior Fiscal Year:**

Not applicable.

## CAPITAL PROJECT COST SHEET

PROJECT NAME: 4W6 Getaway Replacement, W

SCHEDULE: FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
Prepping for new cable installation loading trailers, pumping down manholes, etc.	2		\$12,910	\$0	\$1,840	15kV cable, 750 MCM 1/C , strand shield, EPR	foot	\$14.43	4905.0	\$ 70,779
New cable installation - pulling in cable	2		\$12,910	\$0	\$1,840					\$ -
Terminating and splicing , and wrapping cable, labeling, etc.	2		\$12,910	\$0	\$1,840	Underground contractor assist	week	\$7,054	1.2	\$ 8,464
			\$0	\$0	\$0	Cold shrink splice or termination, and ancillary	point	\$1,060	6.0	\$ 6,358
Existing cable removal, and scrapping cable	2		\$12,910	\$0	\$1,840					\$ -
			\$0	\$0	\$0					\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103						
Supervision of Line crews	53		\$5,606	\$0						\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78						\$ -
Project management, write, review and administer switching. Create work order	40		\$3,205	\$0						\$ -
										\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
Switching cable out and back	8		\$657	\$0	\$168					\$ -
Testing and commissioning of new cable.	8		\$657	\$0	\$168					\$ -
			\$0	\$0	\$0					\$ -
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98						\$ -
Oversight of work in substation, switching review	8		\$809	\$0						\$ -
						Police Details	week	\$2,427	0.5	\$ 1,214
<b>TOTAL:</b>			<b>\$62,577</b>	<b>\$0</b>	<b>\$7,696</b>					<b>\$ 86,816</b>

**PROJECT TOTAL: \$157,089**

## CAPITAL PROJECT SUMMARY

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**Project Name:** 4W16 Getaway Replacement, W

**Project #:** 135

**Project Schedule:** FY19

**Project Manager:** Manole Agouridis, Distribution Engineer

**Reason for Expenditure:**

Upgrade 2,250 circuit feet of underground cable from Station 4 to Causeway Road/Lowell Street. The cable is being replaced to add capacity and replace the existing overloaded getaway, which is nearing the end of its useful life.

**Brief Description/Scope:**

The 4W16 getaway has six (6) sections of underground cable. It is assumed this project will only focus on replacing the existing 500 CU cable with 750 CU cable.

**Barriers:**

Potential unforeseen issues with existing duct bank, conduit, and/or manholes that need to be addressed.

**Change in Scope of Work From Prior Fiscal Year: Increase (Decrease)**

Not applicable.

**Status Update From Prior Fiscal Year:**

Not applicable.

## CAPITAL PROJECT COST SHEET

PROJECT NAME: 4W16 Getaway Replacement, W

SCHEDULE: FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
Prepping for new cable installation loading trailers, pumping down manholes, etc.	2.5		\$16,138	\$0	\$2,300	15kV cable, 750 MCM 1/C , strand shield, EPR	foot	\$14.43	6750.0	\$ 97,403
New cable installation - pulling in cable	2.5		\$16,138	\$0	\$2,300					\$ -
Terminating and splicing , and wrapping cable, labeling, etc.	2.5		\$16,138	\$0	\$2,300	Underground contractor assist	week	\$7,054	1.4	\$ 9,875
			\$0	\$0	\$0	Cold shrink splice or termination, and ancillary	point	\$1,092	7.0	\$ 7,643
Existing cable removal, and scrapping cable	2.5		\$16,138	\$0	\$2,300					\$ -
			\$0	\$0	\$0					\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103						
Supervision of Line crews	64		\$6,770	\$0						\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78						\$ -
Project management, write, review and administer switching. Create work order	40		\$3,205	\$0						\$ -
										\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
Switching cable out and back	8		\$657	\$0	\$168					\$ -
Testing and commissioning of new cable.	8		\$657	\$0	\$168					\$ -
			\$0	\$0	\$0					\$ -
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98						\$ -
Oversight of work in substation, switching review	8		\$809	\$0	\$0					\$ -
						Police Details	week	\$2,427	2.0	\$ 4,855
<b>TOTAL:</b>			<b>\$76,651</b>	<b>\$0</b>	<b>\$9,536</b>					<b>\$ 119,775</b>

**PROJECT TOTAL: \$205,962**

## CAPITAL PROJECT SUMMARY

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**Project Name:** AMI Mesh Network Expansion

**Project #:** 112

**Project Schedule:** Annual

**Project Manager:** Nick D'Alleva,  
Technical Services Manager

**Reason for Expenditure:**

In order to expand RMLD's AMI mesh network, additional relays, retrofit kits, and meters need to be purchased and installed. These new/retrofit meters will give the RMLD the ability to monitor voltage, current, demand, power factor and power quality. They will also provide end-of-the-line voltage.

**Brief Description/Scope:**

Purchase and install meters and retrofit kits that are compatible with the AMI Mesh Network.

**Barriers:**

None anticipated at this time.

**Change in Scope of Work From Prior Fiscal Year: Increase (Decrease)**

Not applicable.

**Status Update From Prior Fiscal Year:**

Not applicable.

## CAPITAL PROJECT COST SHEET

PROJECT NAME: AMI Mesh Network Expansion

SCHEDULE: FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
Line Department: 2-man crew - unit rate in weeks			\$6,455	\$6,267	\$920					
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
Line Operations Supervision: unit rate in hours			\$106	\$103						\$ -
			\$0	\$0						\$ -
Engineering: unit rate in hours			\$80	\$78						\$ -
			\$0	\$0						\$ -
										\$ -
Meter Tech: unit rate in hours			\$50	\$48	\$21					\$ -
Install relays and meters to expand AMI Mesh Network	240		\$11,990	\$0	\$5,040	Relays	each	\$300	25	\$ 7,500
						AMI Retrofits	each	\$100	250	\$ 25,000
						Commercial meters	each	\$700	50	\$ 35,000
						Single-phase meters	each	\$122	250	\$ 30,500
Technical Services Manager: unit rate in hours			\$101	\$98						\$ -
Oversight of project	60		\$6,069	\$0						\$ -
						Police Details	week	\$2,427		\$ -
<b>TOTAL:</b>			<b>\$18,059</b>	<b>\$0</b>	<b>\$5,040</b>					<b>\$ 98,000</b>

**PROJECT TOTAL: \$121,099**



## CAPITAL PROJECT SUMMARY

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**Project Name:** Communication Equipment (for Fiber Optic)      **Project #:** 126

**Project Schedule:** Annual      **Project Manager:** Peter Price, Senior Distribution Engineer  
Brian Smith, Senior Distribution Engineer

**Reason for Expenditure:**

As the RMLD expands its use of the fiber optic network to establish communication with metering equipment, recloser controls, capacitor bank controls and other distribution equipment, the Department will create fiber nodes at various locations along the fiber optic network. Each node will require an enclosure, a fiber optic interface, a power supply, cabling, fiber optic cable, and the termination of the fiber optic cable.

**Brief Description/Scope:**

Purchase materials and procure fiber optic cable splicers as needed.

**Barriers:**

None anticipated at this time.

**Change in Scope of Work From Prior Fiscal Year:**

Not applicable.

**Status Update:**

The Department has expanded the fiber optic network at existing fiber nodes for use with the distribution automation projects.

## CAPITAL PROJECT COST SHEET

**PROJECT NAME:** Communication Equipment (Fiber Optic)

**SCHEDULE:** FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
			\$0	\$0	\$0	Siemens RS900, 9 port managed ethernet switch	each	\$1,500	12	\$ 18,000
			\$0	\$0	\$0	Fiber optic patch cords SC - SC	each	\$5	72	\$ 360
			\$0	\$0	\$0	Pole-mount fiber optic cable enclosure with patch panel and UPS	each	\$2,500	3	\$ 7,500
			\$0	\$0	\$0	ADSS fiber optic cable 72	ft	\$1	10000	\$ 10,000
			\$0	\$0	\$0	Contractor: Fiber optic cable splicing and materials.	day	\$1,600	5	\$ 8,000
			\$0	\$0	\$0					\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103						
			\$0	\$0						\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78						\$ -
			\$0	\$0						\$ -
										\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98						\$ -
			\$0	\$0						\$ -
						Police Details	week	\$2,427	2.0	\$ 4,855
<b>TOTAL:</b>			<b>\$0</b>	<b>\$0</b>	<b>\$0</b>					<b>\$ 48,715</b>

**PROJECT TOTAL: \$48,715**

## CAPITAL PROJECT SUMMARY

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**Project Name:** Substation Equipment Upgrade      **Project #:** 111

**Project Schedule:** Annual      **Project Manager:** Nick D'Alleva,  
Technical Services Manager

**Reason for Expenditure:**

United Power Group and RMLD personnel have identified equipment that needs to be replaced or upgraded as a result of their condition assessment of our substation equipment.

**Brief Description/Scope:**

Purchase remote racking device for breakers at Station 3. Purchase and install miscellaneous equipment at Stations 3, 4 and 5.

**Barriers:**

Availability of replacement parts.

**Change in Scope From Prior Fiscal Year:**

None.

**Status Update:**

Not applicable.

## CAPITAL PROJECT COST SHEET

PROJECT NAME: Substation Equipment Upgrade

SCHEDULE: FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
Line Department: 2-man crew - unit rate in weeks			\$6,455	\$6,267	\$920					
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
Line Operations Supervision: unit rate in hours			\$106	\$103						\$ -
			\$0	\$0						\$ -
Engineering: unit rate in hours			\$80	\$78						\$ -
			\$0	\$0						\$ -
										\$ -
Senior Tech: unit rate in hours			\$82	\$80	\$21					\$ -
Install equipment	100		\$8,217	\$0	\$2,100	Remote racking device for breakers at Station 3	each	\$30,000	1	\$ 30,000
			\$0	\$0	\$0	Miscellaneous equipment				\$ 10,000
Technical Services Manager: unit rate in hours			\$101	\$98						\$ -
			\$0	\$0						\$ -
						Police Details	week	\$2,427		\$ -
<b>TOTAL:</b>			<b>\$8,217</b>	<b>\$0</b>	<b>\$2,100</b>					<b>\$ 40,000</b>

**PROJECT TOTAL: \$50,317**

## CAPITAL PROJECT SUMMARY

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**Project Name:** Power/Lab and Tool Equipment      **Project #:** 115

**Project Schedule:** Annual      **Project Manager:** n/a

**Reason for Expenditure:**

This is an amount reserved for purchase of power/lab and tool equipment.

**Brief Description/Scope:**

The following items will be purchased in FY19:

- Electric phasing meter/hi-pot – six (6) units will be purchased in FY19. Additional units will be scheduled for purchase in the future.
- In-service meter accuracy tester for commercial metering (1 unit)
- Contact resistance tester for substations (1 unit)
- Four-point battery hydraulic press (2 units)

**Barriers:**

None anticipated at this time.

**Change in Scope of Work From Prior Fiscal Year:**

Not applicable.

**Status Update:**

Not applicable.

## CAPITAL PROJECT COST SHEET

PROJECT NAME: Power/Lab and Tool Equipment

SCHEDULE: FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
Line Department: 2-man crew - unit rate in weeks			\$6,455	\$6,267	\$920					
			\$0	\$0	\$0	Electric phasing meter/hi-pot	each	\$3,000	6	\$ 18,000
			\$0	\$0	\$0	In-service meter accuracy tester for commercial metering	each	\$40,000	1	\$ 40,000
			\$0	\$0	\$0	Contact resistance tester (for substations)	each	\$10,000	1	\$ 10,000
			\$0	\$0	\$0	Four point battery hydraulic press	each	\$3,800	2	\$ 7,600
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
Line Operations Supervision: unit rate in hours			\$106	\$103						
			\$0	\$0						\$ -
Engineering: unit rate in hours			\$80	\$78						\$ -
			\$0	\$0						\$ -
										\$ -
Senior Tech: unit rate in hours			\$82	\$80	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
Technical Services Manager: unit rate in hours			\$101	\$98						\$ -
			\$0	\$0						\$ -
						Police Details	week	\$2,427		\$ -
<b>TOTAL:</b>			<b>\$0</b>	<b>\$0</b>	<b>\$0</b>					<b>\$ 75,600</b>

**PROJECT TOTAL: \$75,600**

## CAPITAL PROJECT SUMMARY

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**Project Name:** Meters

**Project #:** 117

**Project Schedule:** Annual

**Project Manager:** Nick D'Alleva,  
Technical Services Manager

**Reason for Expenditure:**

Purchase of meters and metering equipment for new construction, upgrades, and failures.

**Brief Description/Scope:**

Two hundred residential and commercial meters as well as miscellaneous hardware will be purchases for stock.

**Barriers:**

None anticipated at this time.

**Change in Scope of Work From Prior Fiscal Year:**

Not applicable.

**Status Update:**

Not applicable.

## CAPITAL PROJECT COST SHEET

PROJECT NAME: Meters

SCHEDULE: FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
Line Department: 2-man crew - unit rate in weeks			\$6,455	\$6,267	\$920					
			\$0	\$0	\$0	Residential and commercial meters for stock.	each	\$300	200	\$ 60,000
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
Line Operations Supervision: unit rate in hours			\$106	\$103	\$21					
			\$0	\$0	\$0					\$ -
Engineering: unit rate in hours			\$80	\$78	\$21					\$ -
			\$0	\$0	\$0					\$ -
										\$ -
Senior Tech: unit rate in hours			\$82	\$80	\$21					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
Technical Services Manager: unit rate in hours			\$101	\$98	\$21					\$ -
			\$0	\$0	\$0					\$ -
						Police Details	week	\$2,427		\$ -
<b>TOTAL:</b>			<b>\$0</b>	<b>\$0</b>	<b>\$0</b>					<b>\$ 60,000</b>

**PROJECT TOTAL: \$60,000**



## CAPITAL PROJECT SUMMARY

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**Project Name:** Transformers and Capacitors

**Project #:** 116

**Project Schedule:** Annual

**Project Manager:** Vaughan Bryan,  
Distribution Engineer

**Reason for Expenditure:**

A major quantity of standard units is necessary for proposed projects and stock on an ongoing basis.

**Brief Description/Scope:**

Transformer and capacitor bids will be prepared and units purchased as outlined on the Project Cost Sheet.

**Barriers:**

None anticipated at this time

**Change in Scope of Work From Prior Fiscal Year:**

Not applicable.

**Status Update:**

Not applicable.

## CAPITAL PROJECT COST SHEET

PROJECT NAME: Transformers and Capacitors

SCHEDULE: FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
			\$0	\$0	\$0	Three-phase pad-mount transformers for proposed commercial services and stock	each	\$12,500	20	\$ 250,000
			\$0	\$0	\$0	Single-phase pad-mount transformers for proposed subdivisions and stock.	each	\$2,500	50	\$ 125,000
			\$0	\$0	\$0	Three-phase pole-mount transformers for proposed commercial services and stock	each	\$5,500	15	\$ 82,500
			\$0	\$0	\$0	Single-phase pole-mount transformers for proposed residential services and stock	each	\$1,500	50	\$ 75,000
			\$0	\$0	\$0	1,200 kVar capacitor banks	each	\$12,500	4	\$ 50,000
			\$0	\$0	\$0					\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103	\$21					
			\$0	\$0	\$0					\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78	\$21					\$ -
			\$0	\$0	\$0					\$ -
										\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98	\$21					\$ -
			\$0	\$0	\$0					\$ -
						Police Details	week	\$2,427		\$ -
<b>TOTAL:</b>			<b>\$0</b>	<b>\$0</b>	<b>\$0</b>					<b>\$ 582,500</b>

**PROJECT TOTAL: \$582,500**

## CAPITAL PROJECT SUMMARY

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**Project Name:** Pole Replacement Program, R, NR      **Project #:** 175

**Project Schedule:** Annual      **Project Manager:** John McDonagh,  
General Line Foreman

**Reason for Expenditure:**

In 2015 RMLD initiated a Pole Inspection Program. Ten percent of RMLD-owned poles are inspected annually by an outside contractor using various technology including resistograph technology. This Inspection Program provides RMLD with verifiable data on pole condition. Testing (through FY18), has identified 475 poles that were recommended for replacement.

**Brief Description/Scope:**

RMLD will replace 50 poles per year that are identified as part of the Pole Inspection Program. This project includes setting poles, transfers, and replacement of secondary services as needed.

**Barriers:**

None anticipated at this time.

**Change in Scope of Work From Prior Fiscal Year: Increase (Decrease)**

Not applicable.

**Status Update From Prior Fiscal Year:**

Since the inception of the Pole Inspection Program a total of 187 poles have been replaced, and 172 transfers have been completed (as of March 2018).

## CAPITAL PROJECT COST SHEET

PROJECT NAME: Pole Replacement Program

SCHEDULE: FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
Set and transfer 50 poles.	20	5	\$129,105	\$31,334	\$23,000	Poles	each	\$400	50.0	\$ 20,000
			\$0	\$0	\$0	Miscellaneous hardware (bolts, etc.)	per pole	\$90	50.0	\$ 4,500
Service upgrades as necessary	1.2		\$7,746	\$0	\$1,104	Connectors and wires (for service upgrades)	per service	\$213	50.0	\$ 10,650
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103						
Crew supervision	200	40	\$21,156	\$4,108						\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78						\$ -
Pole Foreman and DigSafes	40		\$3,205	\$0						\$ -
										\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98						\$ -
			\$0	\$0						\$ -
						Police Details	week	\$2,427	3.0	\$ 7,282
<b>TOTAL:</b>			\$161,212	\$35,442	\$24,104					\$ 42,432

**PROJECT TOTAL: \$263,190**

## CAPITAL PROJECT SUMMARY

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**Project Name:** Secondary and Main Replacement Program **Project #:** 458

**Project Schedule:** Annual **Project Manager:** John McDonagh, General  
Line Foreman  
All Engineers

**Reason for Expenditure:**

This preventive maintenance program is intended to upgrade and improve system reliability and address aging infrastructure.

**Brief Description/Scope:**

This program identifies aging infrastructure and addresses a variety of work to include: secondary upgrades and service drop upgrades as needed. The pole replacements, primary cable replacement and transformer upgrades will be done in conjunction with the Stepdown Area Conversions, Project 107. Two areas will be targeted for upgrade in FY19.

**Barriers:**

Future upgrades are in Verizon set territory and could result in pole setting delays.

**Change in Scope of Work from Prior Fiscal Year: Increase (Decrease)**

Not applicable.

**Status Update from Prior Fiscal Year:**

Not applicable.

## CAPITAL PROJECT COST SHEET

**PROJECT NAME:** Secondary & Main Replacement Program  
Project 1: Gerry Road & Drury Lane Area, LC

**SCHEDULE:** FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
Frame up to 28 Verizon set poles in the Gerry & Drury Road area in LC for new secondary cable	1.4		\$9,037	\$0	\$1,288	Secondary hardware, brackets, connectors, etc	each	\$54.00	56	\$ 3,024
Install 4,100' of secondary cable	4.8		\$30,985	\$0	\$4,416	4/0-3/C secondary cable	foot	\$1.60	4100	\$ 6,560
Replace 56 services	4		\$25,821	\$0	\$3,680	120' of 1/0 - 3/C service wire for each service	each	\$100.00	56	\$ 5,600
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103						
Supervision of Line crews	80		\$8,462	\$0						\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78						\$ -
Construction plans, outage notices, etc.	40		\$3,205	\$0						\$ -
										\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98						\$ -
			\$0	\$0						\$ -
						Police Details	week	\$2,427	4.5	\$ 10,924
<b>TOTAL:</b>			<b>\$77,511</b>	<b>\$0</b>	<b>\$9,384</b>					<b>\$ 26,108</b>

<b>PROJECT TOTAL:</b>	<b>\$113,002</b>
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## CAPITAL PROJECT COST SHEET

**Secondary & Main Replacement Program**

Project 2: Thomas, Putney, Bancroft,  
Atherton Area, LC

**PROJECT NAME:** \_\_\_\_\_

**SCHEDULE:**     FY19    

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
Frame up to 67 Verizon set poles in the Thomas, Putney, Bancroft, Atherton area in LC for new secondary cable	6.7		\$43,250	\$0	\$6,164	Secondary hardware, brackets, connectors, etc	each	\$54.00	116	\$ 6,264
Install 6,800' of secondary cable	8		\$51,642	\$0	\$7,360	4/0-3/C secondary cable	foot	\$1.60	6800	\$ 10,880
Replace up to 116 services	8.7		\$56,161	\$0	\$8,004	120' of 1/0 - 3/C service wire for each service	each	\$100.00	116	\$ 11,600
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103						
Supervision of Line crews	120		\$12,694	\$0						\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78						\$ -
Construction plans, outage notices, etc.	80		\$6,410	\$0						\$ -
										\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98						\$ -
			\$0	\$0						\$ -
						Police Details	week	\$2,427	4.5	\$ 10,924
<b>TOTAL:</b>			\$170,156	\$0	\$21,528					\$ 39,668

**PROJECT TOTAL: \$231,351**





# CAPITAL PROJECT SUMMARY

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**Project Name:** 13.8kV Upgrade (Step-down Area, etc.)      **Project #:** 107  
All Towns

**Project Schedule:** Annual      **Project Manager:** All Engineers

**Reason for Expenditure:**

There are a number of step-down areas left in the RMLD service territory. These areas on the RMLD distribution system were originally fed from 5 kV distribution circuits. When RMLD began moving load over to the 13.8kV distribution circuits, most areas were converted but some areas were re-fed with pole-mount, step-down transformers. Most of the distribution system in these areas are 30+ years old and in need of upgrade before they can be converted.

**Brief Description/Scope:**

Replace poles, primary cable, and overhead transformers, as needed, in the various step-down areas. Convert areas to 13.8kV and remove step-down transformers. The secondary cable and service upgrades will be done in conjunction with Project 458.

**Barriers:**

Some areas are Verizon set areas.

**Change in Scope of Work From Prior Fiscal Year:**

Not applicable.

**Status Update:**

A conversion has been completed on Federal Street and Main Street in Reading. Additional, conversions are underway on Vine Street, and Timberneck Road in Reading; McDonald Road in Wilmington, and Adams Street in North Reading.

## CAPITAL PROJECT COST SHEET

**PROJECT NAME:** 13.8kV Upgrade (Step-down Areas, etc.)  
Project 1: Gerry & Drury Road Area, LC

**SCHEDULE:** FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
Frame up to 28 Verizon set poles in the Gerry & Drury Road area in LC for new primary cable	2.6		\$16,784	\$0	\$2,392	Hardware, insulators, connectors, guys, cutouts, taps, brackets, ground rods, etc	each	\$180.00	28	\$ 5,040
Install 2,800' of primary cable	3.6		\$23,239	\$0	\$3,312	1/0 AAAC Primary	foot	\$0.87	2800	\$ 2,436
Replace seven (7) polemount transformers	2.8		\$18,075	\$0	\$2,576					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103						
Supervision of Line crews	80		\$8,462	\$0						\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78						\$ -
Pole Foreman, 605As, construction drawings, switching orders, etc.	105		\$8,413	\$0						\$ -
										\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98						\$ -
			\$0	\$0						\$ -
						Police Details	week	\$2,427	4.5	\$ 10,924
<b>TOTAL:</b>			<b>\$74,972</b>	<b>\$0</b>	<b>\$8,280</b>					<b>\$ 18,400</b>

**PROJECT TOTAL: \$101,652**

## CAPITAL PROJECT COST SHEET

13.8kV Upgrade (Step-down Areas, etc.)

Project 2: Thomas, Putney, Bancroft,  
Atherton Area, LC

PROJECT NAME: \_\_\_\_\_

SCHEDULE:     FY19    

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
Frame up to 28 Verizon set poles in the Gerry & Drury Road area in LC for new primary cable	9.2		\$59,388	\$0	\$8,464	Hardware, insulators, connectors, guys, cutouts, taps, brackets, ground rods, etc	each	\$180.00	67	\$ 12,060
Install 2,800' of primary cable	6.6		\$42,605	\$0	\$6,072	1/0 AAAC Primary	foot	\$0.87	5500	\$ 4,785
Replace seven (7) polemount transformers	4.8		\$30,985	\$0	\$4,416					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103						
Supervision of Line crews	160		\$16,925	\$0						\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78						\$ -
Pole Foreman, 605As, construction drawings, switching orders, etc.	240		\$19,229	\$0						\$ -
										\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98						\$ -
			\$0	\$0						\$ -
						Police Details	week	\$2,427	10.0	\$ 24,275
<b>TOTAL:</b>			<b>\$169,132</b>	<b>\$0</b>	<b>\$18,952</b>					<b>\$ 41,120</b>

**PROJECT TOTAL: \$229,203**



## CAPITAL PROJECT SUMMARY

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**Project Name:** Underground Facilities Upgrades (URDs, Manholes, etc.)      **Project #:** 106

**Project Schedule:** Annual      **Project Manager:** Vaughan Bryan,  
Distribution Engineer  
John McDonagh, General Line  
Foreman

### **Reason for Expenditure:**

There are 210 +/- underground residential subdivisions in the RMLD service territory, of which, 90 +/- are over 25 years old. These subdivisions are in need of new primary cable and transformers. Some of the URDs are in step-down areas and need to be upgraded before they can be converted to 7,970 volts. Most of the existing transformers are live-front units. The new pad-mount transformers will be dead-front units, which will improve reliability by eliminating the possibility of animal contacts within the pad transformer. The new transformers will be placed on box-pads that will raise the transformers out of the mulch beds, which will prevent premature rusting and corrosion of the transformers.

### **Brief Description/Scope:**

Replace primary and neutral cables, and pad-mount transformers as needed in the various URDs. Some of the transformers within each of these subdivisions have already been replaced. The precast transformer pads will be replaced with fiberglass box pads as needed for elevation requirements. Certain areas will be targeted each year.

### **Barriers:**

None anticipated at this time.

### **Change in Scope of Work From Prior Fiscal Year:**

Not applicable.

### **Status Update:**

The Department completed Crestwood and Robin Road in North Reading, portions of Spruce Road in North Reading, Cherokee Lane in Wilmington, and Aspen Road in North Reading. The Department is working to complete Westover Estates in Lynnfield and Shasta Lane in North Reading in FY18.

## CAPITAL PROJECT COST SHEET

**PROJECT NAME:** UG Facilities Upgrade (URDs, Manholes, etc.)  
Project 1: Arlene/Ella/Franklin Area, W

**SCHEDULE:** FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
Replace URD and neutral cable	10		\$64,552	\$0	\$9,200	#2 CU 15 kV cable and neutral	foot	\$3	5500	\$ 16,500
Splice, terminate, elbows, grounding, etc.	2.6		\$16,784	\$0	\$2,392	splices, elbows, terminations, tape connectors, hardware, etc.	each	\$120	12	\$ 1,440
Replace 10 pad-mounted transformers	4.4		\$28,403	\$0	\$4,048	box pads	each	\$160	10	\$ 1,600
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103						
Supervision of Line crews	160		\$16,925	\$0						\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78						\$ -
Switching, scheduling, notices, plans, etc.	128		\$10,255	\$0						\$ -
										\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98						\$ -
			\$0	\$0						\$ -
						Police Details	week	\$2,427	2.0	\$ 4,855
<b>TOTAL:</b>			<b>\$136,919</b>	<b>\$0</b>	<b>\$15,640</b>					<b>\$ 24,395</b>

**PROJECT TOTAL: \$176,954**

## CAPITAL PROJECT COST SHEET

**PROJECT NAME:** UG Facilities Upgrade (URDs, Manholes, etc)  
Project 2: Carter/Willard Area, LC

**SCHEDULE:** FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
Replace URD and neutral cable.	6		\$38,731	\$0	\$5,520	#2 CU 15 kV cable and neutral	foot	\$3	2500	\$ 7,500
Splice, terminate, elbows, grounding, etc.	1.2		\$7,746	\$0	\$1,104	splices, elbows, terminations, tape connectors, hardware, etc.	each	\$120	8	\$ 960
Replace three (3) pad-mounted transformers	1.4		\$9,037	\$0	\$1,288	box pads	each	\$160	3	\$ 480
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103						
Suprevison of Line crews	120		\$12,694	\$0						\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78						\$ -
Switching, scheduling, notices, plans, etc.	56		\$4,487	\$0						\$ -
										\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98						\$ -
			\$0	\$0						\$ -
						Police Details	week	\$2,427	1.0	\$ 2,427
<b>TOTAL:</b>			<b>\$72,695</b>	<b>\$0</b>	<b>\$7,912</b>					<b>\$ 11,367</b>

**PROJECT TOTAL: \$91,975**

## CAPITAL PROJECT COST SHEET

**PROJECT NAME:** UG Facilities Upgrade (URDs, Manholes, etc)  
Project 3: Sandspur Lane, NR

**SCHEDULE:** FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
Replace URD and neutral cable	4.8		\$30,985	\$0	\$4,416	#2 CU 15 kV cable and neutral	foot	\$3	1200	\$ 3,600
Splice, terminate, elbows, grounding, etc.	0.8		\$5,164	\$0	\$736	splices, elbows, terminations, tape connectors, hardware, etc.	each	\$120	6	\$ 720
Replace two (2) pad-mounted transformers	1		\$6,455	\$0	\$920	box pads	each	\$160	2	\$ 320
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103						
Suprevison of Line crews	40		\$4,231	\$0						\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78						\$ -
Switching, scheduling, notices, plans, etc.	40		\$3,205	\$0						\$ -
										\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98						\$ -
			\$0	\$0						\$ -
						Police Details	week	\$2,427	1.0	\$ 2,427
<b>TOTAL:</b>			<b>\$50,041</b>	<b>\$0</b>	<b>\$6,072</b>					<b>\$ 7,067</b>

**PROJECT TOTAL: \$63,180**



## CAPITAL PROJECT SUMMARY

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**Project Name:** Service Connections  
(Commercial and Residential) **Project #:** various

**Project Schedule:** Annual **Project Manager:** John McDonagh,  
General Line Foreman

**Reason for Expenditure:**

To install new and upgraded services for both residential and commercial/industrial customers in the service territory.

**Brief Description/Scope:**

This item includes new service connections, upgrades, and service replacements for residential, commercial, and industrial customers. This represents the time and materials associated with the replacement of an existing or installation of a new overhead service drop and the connection of an underground service, etc. This does not include the time and materials associated with pole replacements/installations, transformer replacements/installations, primary or secondary cable replacements/installations, etc. These aspects of a project are captured under Routine Construction.

**Barriers:**

None anticipated at this time.

**Change in Scope of Work From Prior Fiscal Year**

Not applicable.

**Status Update:**

Not applicable.

## CAPITAL PROJECT COST SHEET

PROJECT NAME: Service Connections (Residential/Commercial)

SCHEDULE: FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
Install new and upgraded service connections at approximately 350 units	12		\$77,463	\$0	\$11,040	Secondary hardware, brackets, connectors, etc.	per service	\$54	350.0	\$ 18,900
			\$0	\$0	\$0	120' of 1/O - 3/C service wire for each service	per service	\$100	350.0	\$ 35,000
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103						
			\$0	\$0						\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78						\$ -
			\$0	\$0						\$ -
										\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98						\$ -
			\$0	\$0						\$ -
						Police Details	week	\$2,427		\$ -
<b>TOTAL:</b>			\$77,463	\$0	\$11,040					\$ 53,900

**PROJECT TOTAL: \$142,403**

# CAPITAL PROJECT SUMMARY

---

**Project Name:** Routine Construction **Project #:** various

**Project Schedule:** Annual **Project Manager:** Various

**Reason for Expenditure:**

Routine Construction covers routine activity as well as capital construction projects that develop during the year including, but not limited to items shown below.

**Brief Description/Scope:**

- Overhead and underground system upgrades
- Miscellaneous projects
- Pole damage
- Station upgrades
- Porcelain cutout replacements
- Street Light Connections – new equipment installation
- Pole setting/transfers
- Underground subdivisions (new construction)

**Barriers:**

None anticipated at this time.

**Change in Scope of Work From Prior Fiscal Year:**

Not applicable.

**Status Update:**

Not applicable.

**CAPITAL PROJECT COST SHEET**

**PROJECT NAME:** Routine Construction

**SCHEDULE:** FY19

ITEM/TASK	RMLD LABOR					MATERIALS/CONTRACTORS				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)	DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
	Straight Time	OT	Straight Time	Overtime						
<b>Line Department: 2-man crew - unit rate in weeks</b>			\$6,455	\$6,267	\$920					
Capital Construction	20	10	\$129,105	\$62,668	\$27,600	Materials as necessary				\$ 200,000
Street Light Installations	4		\$25,821	\$0	\$3,680	Materials as necessary				\$ 50,000
Pole Setting/Transfers	27		\$174,291	\$0	\$24,840	Materials as necessary				\$ 90,000
Underground Construction	1.5		\$9,683	\$0	\$1,380	Materials as necessary				\$ 115,000
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Line Operations Supervision: unit rate in hours</b>			\$106	\$103						
Crew supervision	110		\$11,636	\$0						\$ -
<b>Engineering: unit rate in hours</b>			\$80	\$78						\$ -
Project management	320		\$25,638	\$0						\$ -
										\$ -
<b>Senior Tech: unit rate in hours</b>			\$82	\$80	\$21					\$ -
			\$0	\$0	\$0					\$ -
			\$0	\$0	\$0					\$ -
<b>Technical Services Manager: unit rate in hours</b>			\$101	\$98						\$ -
			\$0	\$0						\$ -
						Police Details	week	\$2,427	52.0	\$ 126,229
<b>TOTAL:</b>			<b>\$376,174</b>	<b>\$62,668</b>	<b>\$57,500</b>					<b>\$ 581,229</b>

**PROJECT TOTAL: \$1,077,572**

APPROVAL OF BOARD MINUTES  
APRIL 5, 2018 AND APRIL 17, 2018  
ATTACHMENT 2

POWER SUPPLY REPORT  
MARCH 2018  
ATTACHMENT 3

A stylized landscape illustration featuring rolling green hills, a blue sky with wavy bands, a red bird, a green tree, a purple flower, and an orange butterfly.

# INTEGRATED RESOURCES RMLD

Board of Commissioners Meeting

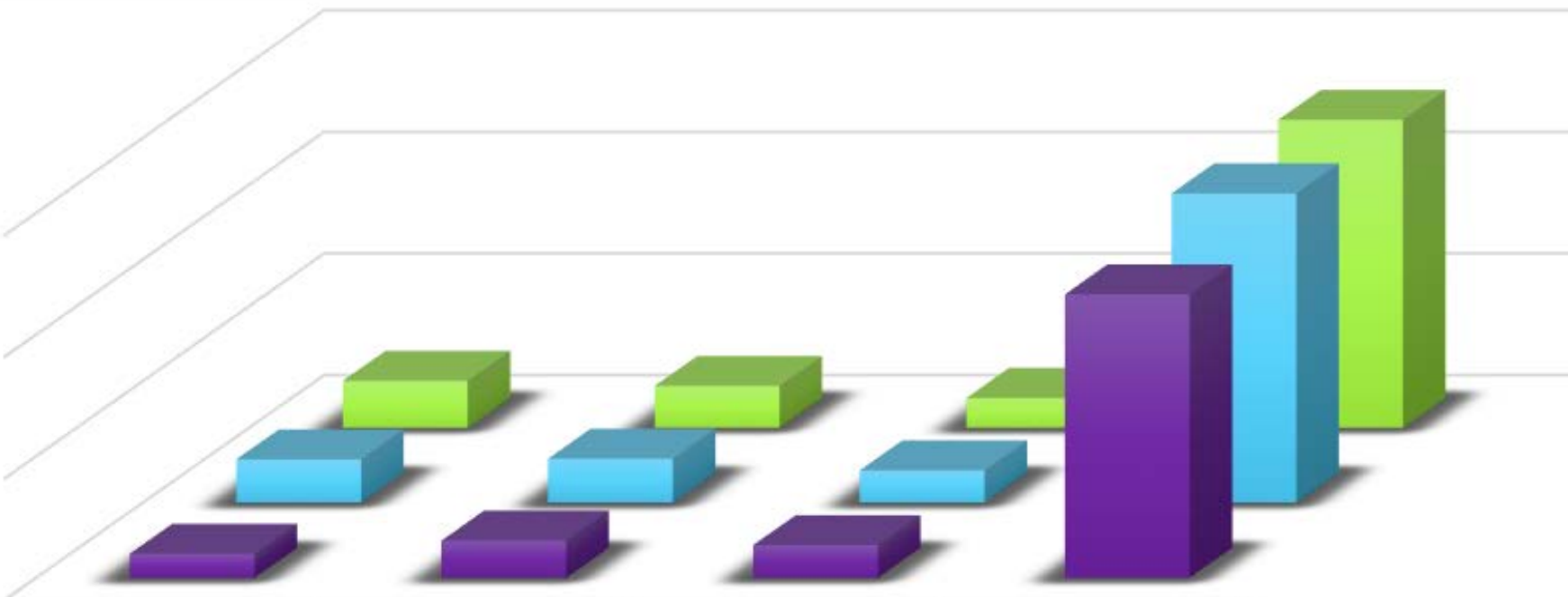
May 9, 2018

Jane Parenteau, Director of Integrated Resources

Reporting for March 2018

# KWh Sales 3<sup>rd</sup> FY Quarter 2016 - 2018

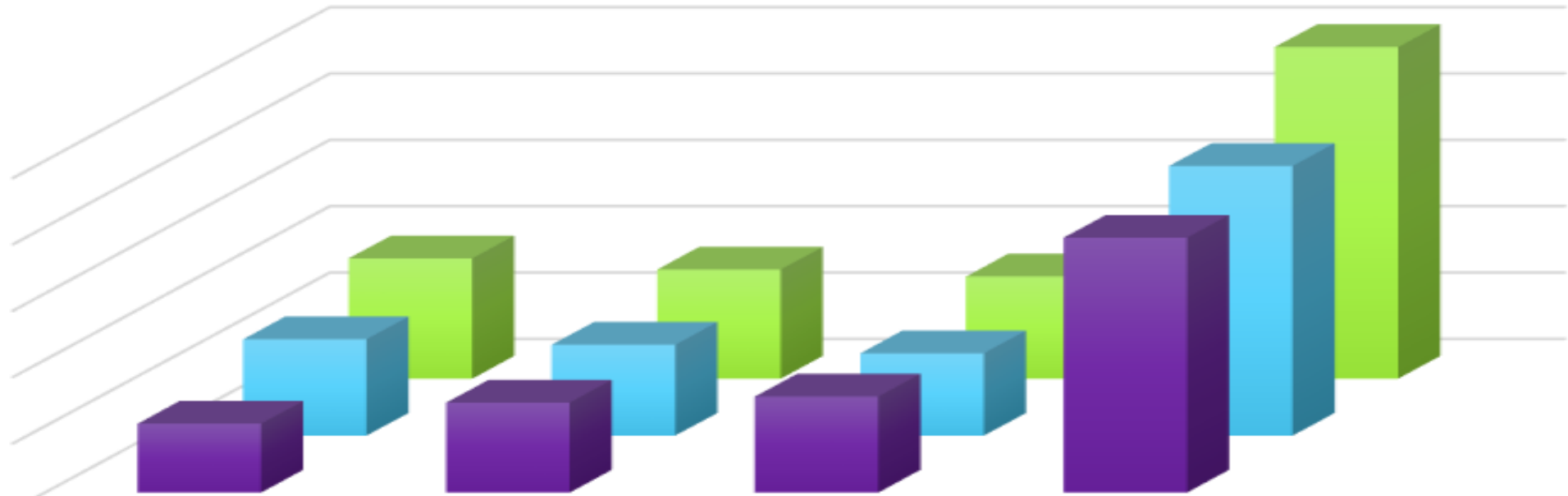
kWh Sales



	January	February	March	Q3 Total
■ 2016	48,836,336	54,279,229	52,417,738	155,533,303
■ 2017	56,812,248	57,075,866	52,281,239	166,169,353
■ 2018	58,239,485	56,126,461	51,190,699	165,556,645

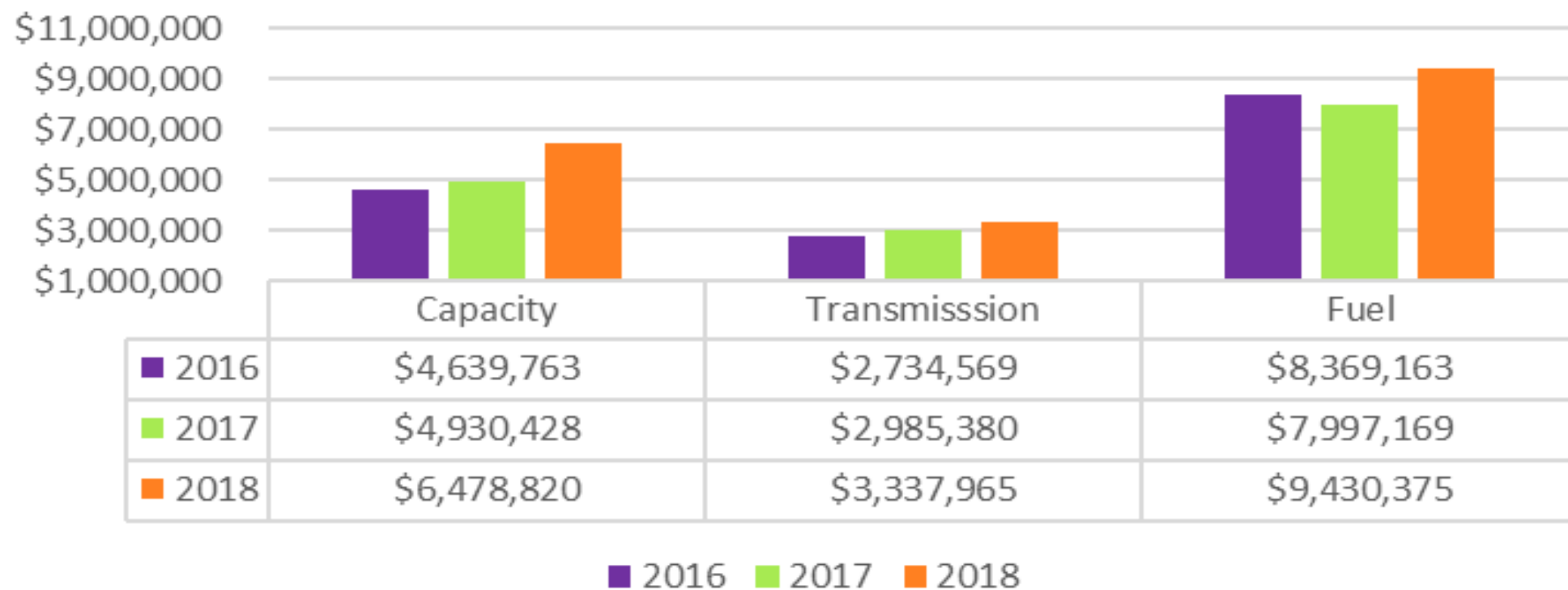


# Purchase Power, Capacity & Transmission (PPCT) Revenue

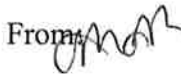



	January	February	March	Q3 Totals
■ 2016	\$2,075,758	\$2,712,157	\$2,894,687	\$7,682,602
■ 2017	\$2,904,976	\$2,740,693	\$2,483,355	\$8,129,024
■ 2018	\$3,625,661	\$3,291,699	\$3,078,354	\$9,995,714

## Capacity, Transmission and Fuel Cost January - March 2016 - 2018



To: Coleen O'Brien

From:  Maureen McHugh, Jane Parenteau 

Date: May 2, 2018

Subject: Purchase Power Summary – March, 2018

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

**ENERGY**

The RMLD's total metered load for the month was 54,091,528, which is a 3.39% decrease from the March, 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	3,712,659	\$6.38	6.76%	\$23,680	0.89%
Seabrook	5,901,595	\$5.92	10.74%	\$34,937	1.31%
Stonybrook Intermediate	242,232	\$4.31	0.44%	\$1,043	0.04%
Shell Energy	7,529,850	\$56.88	13.71%	\$428,328	16.05%
NYPA	2,155,416	\$5.30	3.92%	\$11,427	0.43%
Nextera	1,802,000	\$33.45	3.28%	\$60,285	2.26%
ISO Interchange	11,414,569	\$42.34	20.78%	\$483,241	18.11%
Nema Congestion	-	\$0.00	0.00%	\$19,676	0.74%
Coop Resales	9,523	\$149.43	0.02%	\$1,423	0.05%
EDF	5,326,100	\$44.81	9.70%	\$238,678	8.94%
Hydro Projects*	5,993,138	\$68.79	10.91%	\$412,291	15.45%
Braintree Watson Unit	79,424	\$2,740.98	0.14%	\$217,700	8.16%
Saddleback/Jericho Wind	3,341,204	\$95.39	6.08%	\$318,730	11.94%
One Burlington & Comm. Solar	179,482	\$73.16	0.33%	\$13,131	0.49%
Exelon	7,226,800	\$55.59	13.16%	\$401,752	15.05%
Stonybrook Peaking	12,100	\$208.54	0.02%	\$2,523	0.09%
Monthly Total	54,926,092	\$48.59	100.00%	\$2,668,846	100.00%

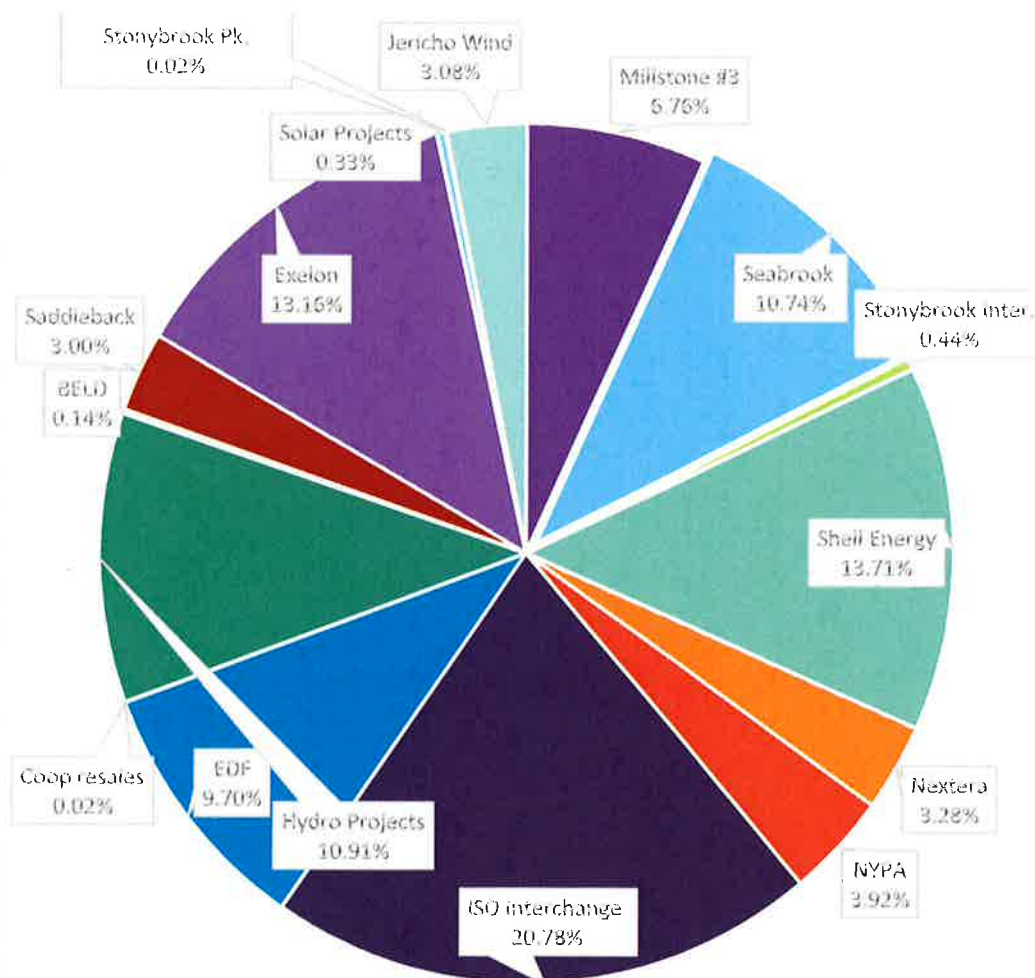
**\*Pepperell, Woronoco, Indian River, Turner Falls, Collins, Pioneer, Hosiery Mills, Aspinook Hydro**

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

Resource	Amount of Energy (kWh)	Cost of Energy (\$/Mwh)	% of Total Energy
ISO DA LMP * Settlement	21,957,269	\$38.14	39.98%
RT Net Energy ** Settlement	(10,542,700)	\$33.14	-19.19%
ISO Interchange (subtotal)	11,414,569	\$42.34	20.78%

\* Independent System Operator Day-Ahead Locational Marginal Price

### MARCH 2018 ENERGY BY RESOURCE



## CAPACITY

The RMLD hit a demand of 90,379 kW, which occurred on March 7, at 6 pm. The RMLD's monthly UCAP requirement for March, 2018 was 222,643 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	24.74	\$122,445	6.55%
Seabrook	7,909	18.90	\$149,517	8.00%
Stonybrook Peaking	24,980	1.94	\$48,520	2.60%
Stonybrook CC	42,925	3.30	\$141,817	7.59%
NYPA	0	0.00	-\$15,084	-0.81%
Hydro Quebec	0	0	-\$49,242	-2.63%
Braintree Watson Unit	0	0.00	-\$181,593	-9.71%
ISO-NE Supply Auction	141,879	11.65	\$1,653,261	88.43%
<b>Total</b>	<b>222,643</b>	<b>\$8.40</b>	<b>\$1,869,640</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	\$23,680	\$122,445	\$146,125	3.22%	3,712,659	0.0394
Seabrook	\$34,937	\$149,517	\$184,455	4.06%	5,901,595	0.0313
Stonybrook Intermediate	\$1,043	\$141,817	\$142,860	3.15%	242,232	0.5898
Hydro Quebec	\$0	-\$49,242	-\$49,242	-1.08%	-	0.0000
Shell Energy	\$428,328	\$0	\$428,328	9.44%	7,529,850	0.0569
NextEra/EDF	\$60,285	\$0	\$60,285	1.33%	1,802,000	0.0335
* NYPA	\$11,427	-\$15,084	-\$3,657	-0.08%	2,155,416	-0.0017
ISO Interchange	\$483,241	\$1,653,261	\$2,136,501	47.08%	11,414,569	0.1872
Nema Congestion	\$19,676	\$0	\$19,676	0.43%	-	0.0000
EDF	\$238,678	\$0	\$238,678	5.26%	5,326,100	0.0448
* Hydro Projects	\$412,291	\$0	\$412,291	9.08%	5,993,138	0.0688
Braintree Watson Unit	\$217,700	-\$181,593	\$36,107	0.80%	79,424	0.4546
* Saddleback/Jericho	\$318,730	\$0	\$318,730	7.02%	3,341,204	0.0954
* Burlington & Community Solar	\$13,131	\$0	\$13,131	0.29%	179,482	0.0732
Coop Resales	\$1,423	\$0	\$1,423	0.03%	9,523	0.1494
Exelon Energy	\$401,752	\$0	\$401,752	8.85%	7,226,800	0.0556
Stonybrook Peaking	\$2,523	\$48,520	\$51,043	1.12%	12,100	4.2184
<b>Monthly Total</b>	<b>\$2,668,846</b>	<b>\$1,869,640</b>	<b>\$4,538,485</b>	<b>100.00%</b>	<b>54,926,092</b>	<b>0.0826</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 March, as well as their estimated market value.

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

**Period - January 2018 - March 2018**

	<b>Banked RECs</b>	<b>Projected RECs</b>	<b>Total RECs</b>	<b>Est. Dollars</b>
<b>Woronoco</b>	1,044	2,479	3,523	\$24,329
<b>Pepperell</b>	461	1,190	1,651	\$11,402
<b>Indian River</b>	350	1,193	1,543	\$10,656
<b>Turners Falls</b>	202	749	951	\$6,568
<b>Saddleback</b>	2,800	7,554	10,354	\$71,505
<b>Jericho</b>	1760	5,703	7,463	\$51,540
<b>Sub total</b>	<b>6,617</b>	<b>18,868</b>	<b>25,485</b>	<b>176,000</b>
<b>RECs Sold</b>			0	\$0
<b>Grand Total</b>	<b>6,617</b>	<b>18,868</b>	<b>25,485</b>	<b>\$176,000</b>

## TRANSMISSION

The RMLD's total transmission costs for the month of March, 2018 were \$927,237. This is an decrease of 24.86% from the February transmission cost of \$1,233,987. In March, 2017 the transmission costs were \$942,832.

**Table 6**

	<b>Current Month</b>	<b>Last Month</b>	<b>Last Year</b>
<b>Peak Demand (kW)</b>	90,379	96,259	93,625
<b>Energy (kWh)</b>	54,926,092	50,211,908	56,742,776
<b>Energy (\$)</b>	\$2,668,846	\$2,950,027	\$2,574,285
<b>Capacity (\$)</b>	\$1,869,640	\$2,499,420	\$1,453,415
<b>Transmission(\$)</b>	\$927,237	\$1,233,987	\$942,832
<b>Total</b>	<b>\$5,465,722</b>	<b>\$6,683,434</b>	<b>\$4,970,532</b>

FINANCIAL REPORT  
MARCH 2018  
ATTACHMENT 4

**FINANCIAL PRESENTATION**  
**MARCH 31, 2018**



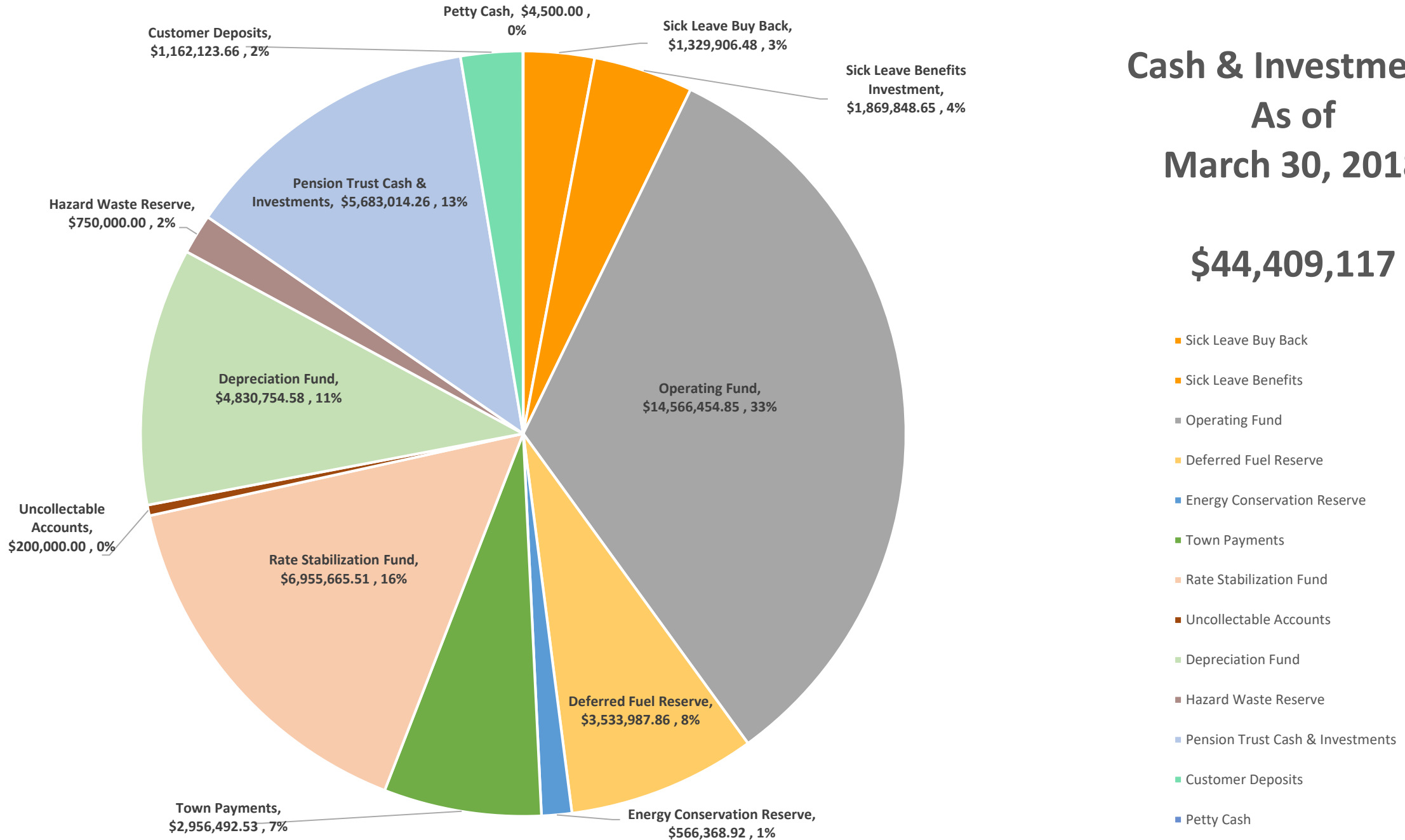
## **9 MONTHS OF FY18 ENDING MARCH 31, 2018**

- **UNRESTRICTED CASH OF \$14.6M COVERS LESS THAN 2 MONTHS OF OPERATING EXPENSES @ 3/31/18**
- **ACCOUNTS RECEIVABLE ARE 97% CURRENT (up to 90 days)**
- **NET PLANT INCREASED BY \$3.8M AS COMPARED TO 3/31/17**
- **BASE REVENUE INCREASED BY 1% YEAR TO YEAR WITH A DECREASE OF KWH SALES OF 2.6%**
- **PURCHASED POWER FUEL EXPENSE EXCEEDS PURCHASED POWER FUEL REVENUE BY \$2.3M**
- **PURCHASED POWER CAPACITY & TRANSMISSION (PPCT) EXPENSES EXCEED PPCT REVENUE BY \$146,000**
- **OPERATING & MAINTENANCE EXPENSES REMAIN UNDER BUDGET BY 1% @ 3/31/18**

# Cash & Investments

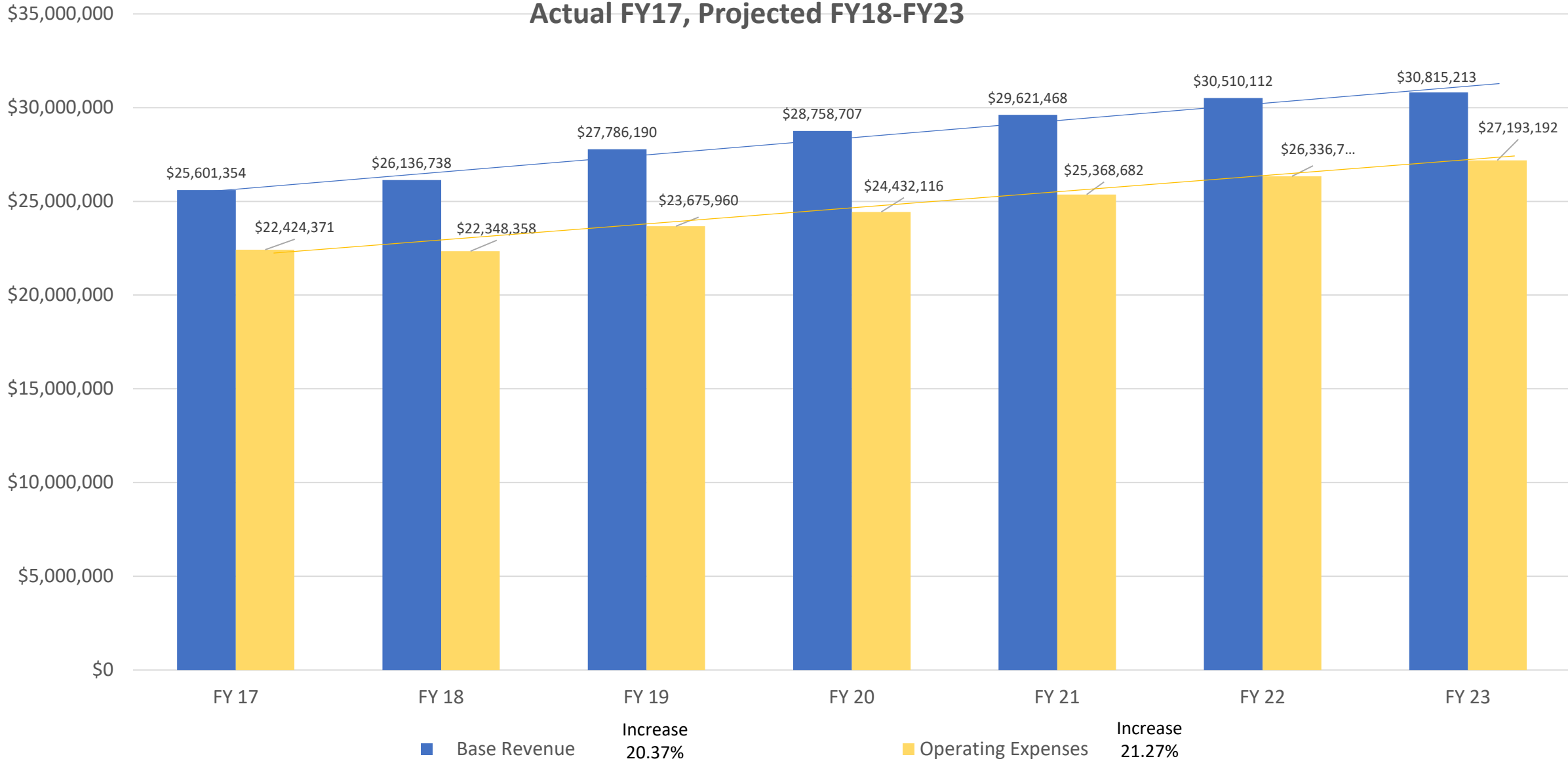
## As of March 30, 2018

**\$44,409,117**

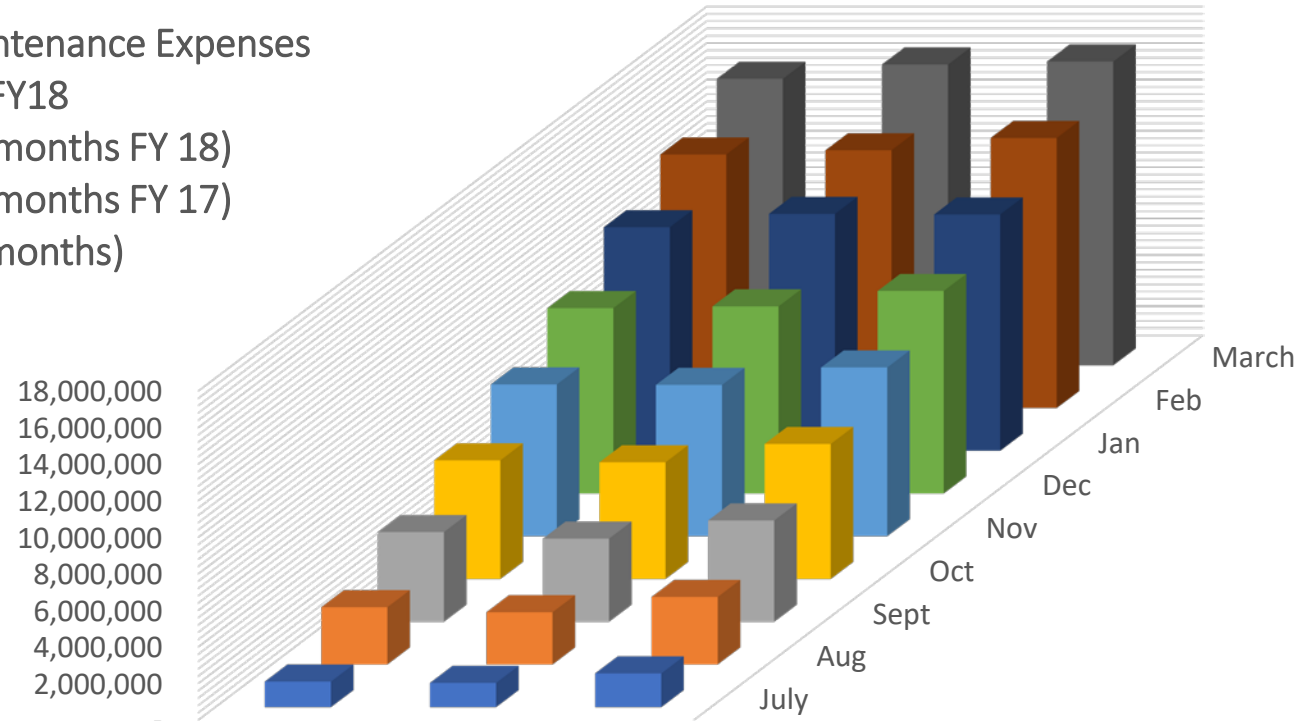


## Base Revenue & Operating Expenses Comparison

### Actual FY17, Projected FY18-FY23



Year to Date Operating and Maintenance Expenses  
 Comparing FY17 FY18  
 July 2017 – March 2018 (9 months FY 18)  
 July 2016 – March 2018 (9 months FY 17)  
 and FY18 Budget (9 months)



	Year to Date	Year to Date	Year to Date
	FY17 Actual	FY18 Actual	Budget
July	1,399,966	1,327,675	1,847,088
Aug	3,134,666	2,859,053	3,694,177
Sept	4,904,753	4,548,252	5,541,265
Oct	6,493,213	6,385,102	7,388,354
Nov	8,309,939	8,282,985	9,235,442
Dec	10,144,029	10,239,188	11,082,530
Jan	12,232,070	12,962,188	12,929,618
Feb	13,874,352	14,103,851	14,776,706
March	15,675,254	16,458,083	16,623,794

Town of Reading, Massachusetts  
Municipal Light Department  
Statement of Net Assets  
March 31, 2018

	<b>2018</b>	<b>2017</b>
<b>ASSETS</b>		
Current:		
Unrestricted Cash	\$ 14,570,954.85	\$ 14,115,318.66
Restricted Cash	28,508,255.97	23,446,243.15
Restricted Investments	1,329,906.48	1,345,663.06
Receivables, Net	9,992,825.86	9,285,515.91
Prepaid Expenses	1,576,270.30	1,420,555.30
Inventory	1,532,196.60	1,762,542.80
Total Current Assets	57,510,410.06	51,375,838.88
Noncurrent:		
Investment in Associated Companies	212,427.92	144,418.75
Capital Assets, Net	77,477,379.12	73,691,430.41
Total Noncurrent Assets	77,689,807.04	73,835,849.16
Deferred Outflows - Pension Plan	4,135,078.00	6,338,218.00
<b>TOTAL ASSETS</b>	<b>139,335,295.10</b>	<b>131,549,906.04</b>
 <b>LIABILITIES</b>		
Current		
Accounts Payable	8,447,693.64	6,057,787.63
Accrued Liabilities	737,108.47	415,220.54
Customer Deposits	1,162,123.66	1,042,347.41
Customer Advances for Construction	1,354,671.13	1,126,545.53
Total Current Liabilities	11,701,596.90	8,641,901.11
Non-current		
Accrued Employee Compensated Absences	3,150,134.05	3,257,809.00
Net OPEB Obligation	138,068.00	0.00
Net Pension Liability	13,076,538.00	8,833,549.00
Total Non-current Liabilities	16,364,740.05	12,091,358.00
Deferred Inflows - Pension Plan	714,888.00	883,172.00
<b>TOTAL LIABILITIES</b>	<b>28,781,224.95</b>	<b>21,616,431.11</b>
 <b>NET POSITION</b>		
Invested in Capital Assets, Net of Related Debt	77,477,379.12	73,691,430.41
Restricted for Depreciation Fund	4,830,754.58	4,594,181.29
Restricted for Pension Trust	5,683,014.26	0.00
Unrestricted	22,562,922.19	31,647,863.23
<b>TOTAL NET POSITION</b>	<b>110,554,070.15</b>	<b>109,933,474.93</b>
<b>Total Liabilities and Net Assets</b>	<b>\$ 139,335,295.10</b>	<b>\$ 131,549,906.04</b>

Town of Reading, Massachusetts  
Municipal Light Department  
Schedule of Cash and Investments  
March 31, 2018

	<u>2018</u>	<u>2017</u>
Unrestricted Cash		
Cash - Operating Fund	\$ 14,566,454.85	\$ 14,112,318.66
Cash - Petty Cash	4,500.00	3,000.00
Total Unrestricted Cash	<u>14,570,954.85</u>	<u>14,115,318.66</u>
Restricted Cash		
Cash - Depreciation Fund	4,830,754.58	4,594,181.29
Cash - Town Payment	2,956,492.53	2,850,500.97
Cash - Deferred Fuel Reserve	3,533,987.86	5,187,757.45
Cash - Rate Stabilization Fund	6,955,665.51	6,863,426.03
Cash - Pension Trust	5,683,014.26	0.00
Cash - Uncollectible Accounts Receivable	200,000.00	200,000.00
Cash - Sick Leave Benefits	1,869,848.65	1,954,601.17
Cash - Hazard Waste Reserve	750,000.00	150,000.00
Cash - Customer Deposits	1,162,123.66	986,734.14
Cash - Energy Conservation	566,368.92	659,042.10
Total Restricted Cash	<u>28,508,255.97</u>	<u>23,446,243.15</u>
Investments		
Sick Leave Buyback	1,329,906.48	1,345,663.06
Total	<u>\$ 44,409,117.30</u>	<u>\$ 38,907,224.87</u>

Town of Reading, Massachusetts  
Municipal Light Department  
Capital Funds  
March 31, 2018

SOURCE OF CAPITAL FUNDS:

DEPRECIATION FUND BALANCE 7/1/17	\$	2,406,969.15
CONSTRUCTION FUND BALANCE 7/1/17		2,500,000.00
ADDITIONAL FUNDS ADDED TO CONSTRUCTION FUND BALANCE 12/31/17		1,200,000.00
INTEREST ON DEPRECIATION FUND FY 18		47,171.71
DEPRECIATION TRANSFER FY 18		3,229,491.78
WEST STREET - MASS DOT FINAL PAYMENT		43,056.31
TOTAL SOURCE OF CAPITAL FUNDS		9,426,688.95

USE OF CAPITAL FUNDS:

ADDITIONS TO PLANT THRU FEBRUARY 2018		
TOTAL USE OF CAPITAL FUNDS		4,595,934.37
GENERAL LEDGER CAPITAL FUNDS BALANCE 2/28/18	\$	4,830,754.58

Town of Reading, Massachusetts  
Municipal Light Department  
Statement of Revenues, Expenses and Changes in Fund Net Assets  
March 31, 2018

	Month Current Year	Month Last Year	Year to Date Current Year	Year to Date Last Year	Percent Change
<b>Operating Revenue</b>					
Base Revenue	\$ 1,952,703.86	\$ 1,965,228.87	\$ 19,879,516.93	\$ 19,692,087.57	1.0%
Fuel Revenue	2,684,399.71	2,739,292.96	22,708,805.07	26,135,977.28	(13.1%)
Purchased Power Capacity	3,078,354.01	2,468,111.95	29,880,354.08	25,944,729.46	15.2%
Forfeited Discounts	56,893.40	77,060.64	642,722.75	660,011.11	(2.6%)
Energy Conservation Revenue	50,140.74	51,243.62	501,039.83	513,859.77	(2.5%)
NYPA Credit	(149,684.98)	(101,806.73)	(885,387.24)	(880,171.69)	0.6%
<b>Total Operating Revenue</b>	<b>7,672,806.74</b>	<b>7,199,131.31</b>	<b>72,727,051.42</b>	<b>72,066,493.50</b>	<b>0.9%</b>
<b>Expenses</b>					
<b>Power Expenses:</b>					
547 Purchased Power Fuel Expense	2,669,989.13	2,574,284.96	24,159,424.46	25,172,914.01	(4.0%)
555 Purchased Power Capacity	1,885,091.19	1,534,433.14	19,229,920.19	14,834,380.20	29.6%
565 Purchased Power Transmission	927,236.95	942,831.64	10,796,193.45	10,076,669.48	7.1%
<b>Total Purchased Power</b>	<b>5,482,317.27</b>	<b>5,051,549.74</b>	<b>54,185,538.10</b>	<b>50,083,963.69</b>	<b>8.2%</b>
<b>Operations and Maintenance Expenses:</b>					
580 Supervision and Engineering	69,716.61	35,139.83	452,136.19	305,210.39	48.1%
581 Station Supervision	19,054.16	12,789.97	119,977.75	106,591.78	12.6%
581 Line General	21,741.04	47,272.29	507,894.07	491,711.32	3.3%
582 Control Room	39,543.82	31,492.26	312,113.23	343,143.75	(9.0%)
585 Street Lighting	15,848.95	6,092.46	88,448.09	154,265.69	(42.7%)
586 Meter General	12,242.79	17,145.09	182,241.23	157,512.92	15.7%
588 Materials Management	48,463.55	38,629.04	424,906.58	335,930.97	26.5%
590 Maintenance of Structures and Equipment	67,880.97	49,399.82	381,745.36	362,450.42	5.3%
593 Maintenance of Lines - Overhead	325,287.81	128,868.16	1,343,763.29	1,481,436.82	(9.3%)
594 Maintenance of Lines - Underground	544.59	3,322.75	54,793.73	198,949.31	(72.5%)
595 Maintenance of Line Transformers	12,623.15	4,829.08	95,686.87	28,387.28	237.1%
<b>Total Operations and Maintenance Expenses</b>	<b>632,947.44</b>	<b>374,980.75</b>	<b>3,963,706.39</b>	<b>3,965,590.65</b>	<b>(0.0%)</b>
<b>General &amp; Administration Expenses:</b>					
902 Meter Reading	776.43	323.24	29,306.25	17,201.38	70.4%
903 Customer Collections	131,345.22	139,904.29	1,264,913.85	1,191,640.21	6.1%
904 Uncollectible Accounts	12,500.00	12,500.00	112,500.00	112,500.00	0.0%
916 Energy Audit	31,716.90	43,713.39	347,845.57	377,509.65	(7.9%)
916 Energy Conservation	142,157.81	96,596.85	537,614.06	572,235.91	(6.1%)
920 Administrative and General Salaries	78,259.79	81,743.02	819,146.28	706,663.86	15.9%
921 Office Supplies and Expense	33,826.68	45,818.05	242,295.07	232,030.49	4.4%
923 Outside Services	70,288.53	109,063.21	645,367.57	445,712.18	44.8%
924 Property Insurance	28,372.95	49,473.65	253,598.63	272,518.50	(6.9%)
925 Injuries and Damages	3,568.30	5,622.36	48,134.99	46,688.99	3.1%
926 Employee Pensions and Benefits	556,880.92	263,515.28	2,965,865.13	2,707,557.80	9.5%
930 Miscellaneous General Expense	8,616.21	2,223.11	80,400.02	109,896.01	(26.8%)
931 Rent Expense	22,931.37	16,105.71	146,949.67	132,620.11	10.8%
933 Vehicle Expense	18,101.36	32,121.87	210,207.19	32,121.87	(100.0%)
933 Vehicle Expense - Capital	(18,806.50)	-	(242,541.45)	-	100.0%
935 Maintenance of General Plant	49,820.46	22,132.57	284,884.95	218,800.38	30.2%
935 Maintenance of Building & Garage	65,244.90	45,289.65	408,073.41	400,613.15	1.9%
<b>Total General &amp; Administration Expenses</b>	<b>1,235,601.33</b>	<b>966,146.25</b>	<b>8,154,561.19</b>	<b>7,576,310.49</b>	<b>7.6%</b>



Town of Reading, Massachusetts  
Municipal Light Department  
Statement of Revenues, Expenses and Changes in Fund Net Assets  
March 31, 2018

	Month Current Year	Month Last Year	Year to Date Current Year	Year to Date Last Year	Percent Change
Other Operating Expenses:					
403 Depreciation	358,832.42	341,775.67	3,229,491.78	3,075,981.03	5.0%
408 Voluntary Payments to Towns	126,851.67	118,000.00	1,110,324.01	1,057,372.00	5.0%
Total Other Expenses	<u>485,684.09</u>	<u>459,775.67</u>	<u>4,339,815.79</u>	<u>4,133,353.03</u>	<u>5.0%</u>
Operating Income	(163,743.39)	346,678.90	2,083,429.95	6,307,275.64	(67.0%)
Non Operating Revenue (Expenses):					
419 Interest Income	23,035.63	18,608.32	180,017.45	115,325.91	56.1%
419 Other	40,901.75	(13,214.53)	747,565.23	488,363.74	53.1%
426 Return on Investment to Reading	(201,647.50)	(198,722.33)	(1,814,827.50)	(1,788,500.99)	1.5%
431 Interest Expense	(425.65)	(187.50)	(10,174.42)	(3,476.61)	192.7%
Total Non Operating Revenue (Expenses)	<u>(138,135.77)</u>	<u>(193,516.04)</u>	<u>(897,419.24)</u>	<u>(1,188,287.95)</u>	<u>(24.5%)</u>
Change in Net Assets	(301,879.16)	153,162.86	1,186,010.71	5,118,987.69	(76.8%)
Net Assets at Beginning of Year	109,368,059.44	104,814,487.24	109,368,059.44	104,814,487.24	4.3%
Ending Net Assets	<u>\$ 109,066,180.28</u>	<u>\$ 104,967,650.10</u>	<u>\$ 110,554,070.15</u>	<u>\$ 109,933,474.93</u>	<u>0.6%</u>

Town of Reading, Massachusetts  
Municipal Light Department  
Statement of Budgeted Revenues, Expenses and Changes in Fund Net Assets  
March 31, 2018

	Actual Year to Date	Budget Full Year	Remaining Budget	Remaining Budget %
<b>Operating Revenue</b>				
Base Revenue	\$ 19,879,516.93	\$ 26,337,621.00	\$ 6,458,104.07	24.5%
Fuel Revenue	22,708,805.07	32,491,810.00	9,783,004.93	30.1%
Purchased Power Capacity	29,880,354.08	38,088,978.00	8,208,623.92	21.6%
Forfeited Discounts	642,722.75	800,000.00	157,277.25	19.7%
Energy Conservation Revenue	501,039.83	675,000.00	173,960.17	25.8%
NYPA Credit	(885,387.24)	(1,200,000.00)	(314,612.76)	26.2%
Total Operating Revenue	<u>72,727,051.42</u>	<u>97,193,409.00</u>	<u>24,466,357.58</u>	<u>25.2%</u>
<b>Expenses</b>				
<b>Power Expenses:</b>				
547 Purchased Power Fuel Expense	24,159,424.46	31,291,810.00	7,132,385.54	22.8%
555 Purchased Power Capacity	19,229,920.19	24,476,161.00	5,246,240.81	21.4%
565 Purchased Power Transmission	10,796,193.45	13,612,817.00	2,816,623.55	20.7%
Total Purchased Power	<u>54,185,538.10</u>	<u>69,380,788.00</u>	<u>15,195,249.90</u>	<u>21.9%</u>
<b>Operations and Maintenance Expenses:</b>				
580 Supervision and Engineering	452,136.19	764,615.00	312,478.81	40.9%
581 Station Supervisor	119,977.75	130,662.00	10,684.25	8.2%
581 Line General	507,894.07	596,007.00	88,112.93	14.8%
582 Control Room	312,113.23	466,783.00	154,669.77	33.1%
585 Street Lighting	88,448.09	156,893.00	68,444.91	43.6%
586 Meter General	182,241.23	212,909.00	30,667.77	14.4%
588 Materials Management	424,906.58	458,328.00	33,421.42	7.3%
590 Maintenance of Structures and Equipment	381,745.36	494,936.00	113,190.64	22.9%
593 Maintenance of Lines - Overhead	1,343,763.29	1,980,611.00	636,847.71	32.2%
594 Maintenance of Lines - Underground	54,793.73	197,002.00	142,208.27	72.2%
595 Maintenance of Line Transformers	95,686.87	300,000.00	204,313.13	68.1%
Total Operations and Maintenance Expenses	<u>3,963,706.39</u>	<u>5,758,746.00</u>	<u>1,795,039.61</u>	<u>31.2%</u>
<b>General &amp; Administration Expenses:</b>				
902 Meter Reading	29,306.25	37,461.00	8,154.75	21.8%
903 Customer Collection	1,264,913.85	1,869,393.00	604,479.15	32.3%
904 Uncollectible Accounts	112,500.00	150,000.00	37,500.00	25.0%
916 Energy Audit	347,845.57	509,232.00	161,386.43	31.7%
916 Energy Conservation	537,614.06	952,565.00	414,950.94	43.6%
920 Administrative and General Salaries	819,146.28	1,017,151.00	198,004.72	19.5%
921 Office Supplies and Expense	242,295.07	350,000.00	107,704.93	30.8%
923 Outside Services	645,367.57	759,191.00	113,823.43	15.0%
924 Property Insurance	253,598.63	427,200.00	173,601.37	40.6%
925 Injuries and Damages	48,134.99	52,613.00	4,478.01	8.5%
926 Employee Pensions and Benefits	2,965,865.13	3,000,437.00	34,571.87	1.2%
930 Miscellaneous General Expense	80,400.02	179,215.00	98,814.98	55.1%
931 Rent Expense	146,949.67	212,000.00	65,050.33	30.7%
933 Vehicle Expense	210,207.19	381,116.00	170,908.81	44.8%
933 Vehicle Expense - Capital	(242,541.45)	(301,596.00)	(59,054.55)	19.6%
935 Maintenance of General Plant	284,884.95	281,880.00	(3,004.95)	(1.1%)
935 Maintenance of Building & Garage	408,073.41	666,457.00	258,383.59	38.8%
Total General & Administration Expenses	<u>8,154,561.19</u>	<u>10,544,315.00</u>	<u>2,389,753.81</u>	<u>22.7%</u>

Town of Reading, Massachusetts  
Municipal Light Department  
Statement of Budgeted Revenues, Expenses and Changes in Fund Net Assets  
March 31, 2018

	Actual Year to Date	Budget Full Year	Remaining Budget	Remaining Budget %
Other Operating Expenses:				
403 Depreciation	3,229,491.78	4,362,000.00	1,132,508.22	26.0%
408 Voluntary Payments to Towns	1,110,324.01	1,500,000.00	389,675.99	26.0%
Total Other Expenses	<u>4,339,815.79</u>	<u>5,862,000.00</u>	<u>1,522,184.21</u>	<u>26.0%</u>
Operating Income	2,083,429.95	5,647,560.00	3,564,130.05	63.1%
Non Operating Revenue (Expenses):				
419 Interest Income	180,017.45	150,000.00	(30,017.45)	(20.0%)
419 Other Income	747,565.23	890,000.00	142,434.77	16.0%
426 Return on Investment to Reading/Loss on Disposal	(1,814,827.50)	(2,570,438.00)	(755,610.50)	29.4%
431 Interest Expense	(10,174.42)	(2,500.00)	7,674.42	(307.0%)
Total Non Operating Revenue (Expenses)	<u>(897,419.24)</u>	<u>(1,532,938.00)</u>	<u>(635,518.76)</u>	<u>41.5%</u>
Net Income	<u>\$ 1,186,010.71</u>	<u>\$ 4,114,622.00</u>	<u>\$ 2,928,611.29</u>	<u>71.2%</u>

ENGINEERING & OPERATIONS REPORT  
MARCH 2018  
ATTACHMENT 5

A dark blue arrow points to the right from the left edge of the slide. Several thin, light blue lines curve downwards from the arrow's tip towards the bottom left corner of the slide.

# Engineering & Operations Report

RMLD Board of Commissioners Meeting  
May 9, 2018

March 2018 Reporting Period

Hamid Jaffari, Director of Engineering & Operations

# Engineering & Operations

## Capital Improvement Projects

Project #	DESCRIPTION	% COMPLETE	MAR	YTD ACTUAL	BUDGETED	REMAINING BALANCE
100	Distributed Gas Generation Pilot (Demand Management)	100%	397,174	584,960	-	(584,960)
102	Pad-mount Switchgear Upgrade at Industrial Parks	8%	21,730	272,950	196,285	(76,665)
103	Grid Modernization and Optimization	On-going	3,008	273,559	227,183	(46,376)
105	New Wilmington Substation	6%	9,471	42,867	650,000	607,133
106	Underground Facilities Upgrades (URDs, Manholes, etc.)	On-going		124,797	344,725	219,928
107	13.8kV Upgrade (Step-down Areas, etc.)	On-going	70	69,692	70,851	1,159
108	115 kV Transmission Line Upgrade	50%	-482	144,546	95,098	(49,448)
109	35 kV Underground Cable Upgrade Station 4, 5 and RR ROW	0%	261	261	206,817	205,556
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		65	120,311	120,246
116	Transformers & Capacitors	On-going		273,509	560,500	286,991
117	Meter Purchases	On-going		15,963	60,000	44,037
125	GIS	100%	41	140,029	218,726	78,697
126	Communication Equipment (Fiber Optic)	On-going		-	214,629	214,629
130	Remote Terminal Unit (RTU) Replacement - Station 3	100%		27,164	-	(27,164)
131	LED Street Lights Upgrade - All Towns	93%	31,381	599,382	1,169,332	569,950
133	Station 3: Relay Upgrades and SCADA Integration	100%	5,941	26,488	76,103	49,615
137	Pole Line Upgrade - Woburn Street (West to Concord), W	50%	7,380	8,580	200,284	191,704
138	Station 3 Reactors	99%	1,404	162,295	561,347	399,052
175	Pole Replacement Program	On-going		61,546	209,000	147,454
458	Secondary and Main Replacement Program	On-going	583	77,103	222,285	145,183
various	New Service Installations (Residential/Commercial/Industrial)	On-going	10,228	104,130	155,936	51,806

# Engineering & Operations

## Routine Capital Construction

Description	MAR	YTD
Pole Setting/Transfers	\$7,753	\$193,155
Overhead/Underground	\$46,167	\$263,077
Projects Assigned as Required <ul style="list-style-type: none"> <li>Voltage Regulators</li> </ul>	\$13,751	\$160,429
Pole Damage/Knockdowns- Some Reimbursable <ul style="list-style-type: none"> <li>Work was done to repair or replace one (1) pole.</li> </ul>	\$4,286	\$87,287
Station Group	-	\$12,721
Hazmat/Oil Spills <ul style="list-style-type: none"> <li>Barton Estates, R</li> </ul>	\$811	\$7,546
Porcelain Cutout Replacement Program	-	-
Lighting (Street Light Connections)	-	\$22,578
Storm Trouble	\$60,694	\$140,682
Underground Subdivisions (new construction) <ul style="list-style-type: none"> <li>Martins Landing, Lowell Road, North Reading</li> </ul>	\$621	\$73,859
Animal Guard Installation	-	\$415
Miscellaneous Capital Costs <ul style="list-style-type: none"> <li>Progress Way, W</li> <li>301 Ballardvale, W</li> </ul>	\$18,857	\$169,788
<b>TOTAL</b>	<b><u>\$152,939</u></b>	<b><u>\$1,131,537</u></b>

# Facilities, IRD and IT Capital Projects/Purchases

	MAR	ACTUAL YTD	FY18 BUDGET	REMAINING BALANCE
Facilities	\$8,561	\$161,557	\$657,000	\$495,443
Integrated Resources Division (IRD)	\$7,952	\$48,030	\$35,000	(\$13,030)
Information Technology (IT)	\$1,648	\$113,310	\$340,000	\$226,690

## TOTAL CAPITAL SPENDING YTD (All Divisions)

MAR	YTD	FY18 BUDGET	REMAINING BALANCE
<b>\$659,288</b>	<b>\$4,595,933</b>	<b>\$7,685,521</b>	<b>\$3,089,588</b>





# Routine Maintenance

- **Transformer Replacement (through March 2018)**

Pad mount 28.76%

Overhead 20%

- **Pole Inspection (as of 4/25/2018)**

195 poles have been replaced

178 of 195 transfers have been completed

- **Quarterly Inspection of Feeders (as of 4/25/2018)**

*Inspected Circuits (Jan-Mar):* 3W7, 3W8, 3W14, 3W18, 4W4, 4W6, 4W9, 4W24, 5W4, 5W5, 5W6 (transfer), 5W8, 5W9

- **Manhole Inspection (through March 2018)**

961 of 1,237 manholes have been inspected.

- **Porcelain Cutout Replacement (through March 2018)**

91% complete

242 remaining to be replaced



# Routine Maintenance (continued)

## ► Tree Trimming

Mar: 12 spans

YTD: 825 spans through March

## ► Substation Maintenance

Infrared Scanning – through March complete – no hot spots found

## ► Underground Subdivisions Upgrade

**Recent Completed:** Crestwood Estates (NR), Aspen Road (NR), Long Hill Lane (NR)

**In Progress:** Shasta Drive (NR), Westover Drive (LF ), Greenbriar Drive (NR),  
Great Neck Drive (W), Gandalf Estates (W), Deerfield Place (NR),  
Cherokee Lane (W), Nichols Street (NR)

# Double Poles

➤ Ownership: 16,000 (approximately)

50% RMLD

50% Verizon

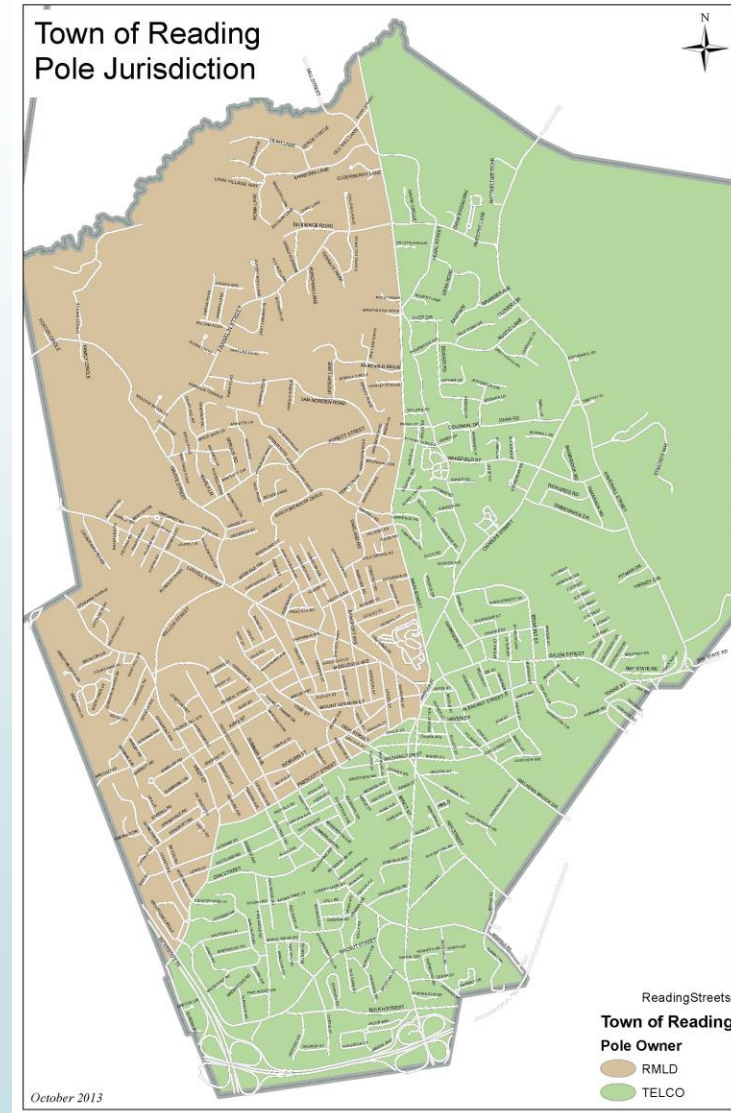
➤ Custodial:

Reading – split (see map) →

North Reading – RMLD

Lynnfield – Verizon

Wilmington - Verizon



# NJUNS

“Next to Go” as of May 4, 2018

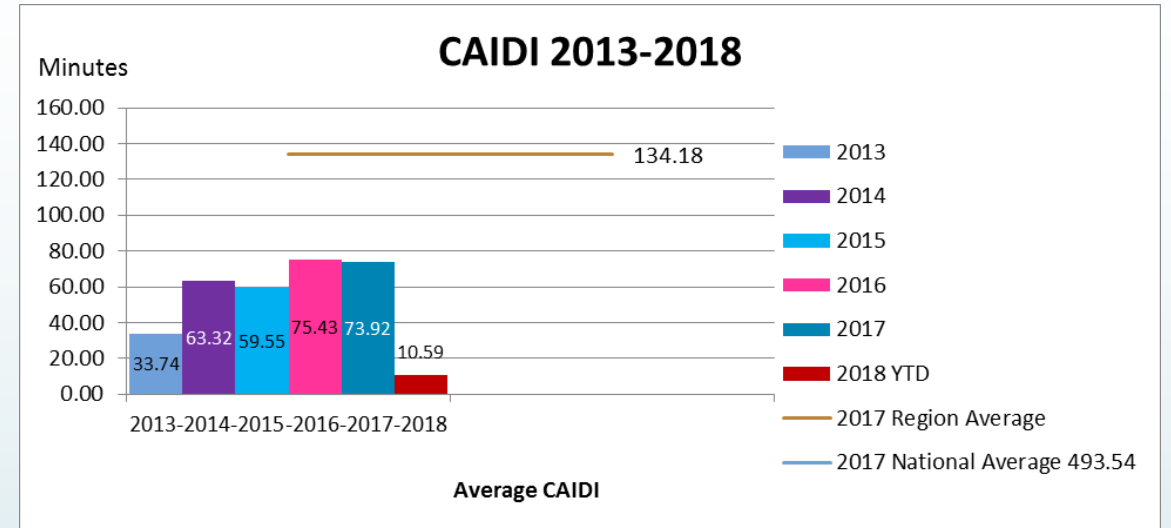
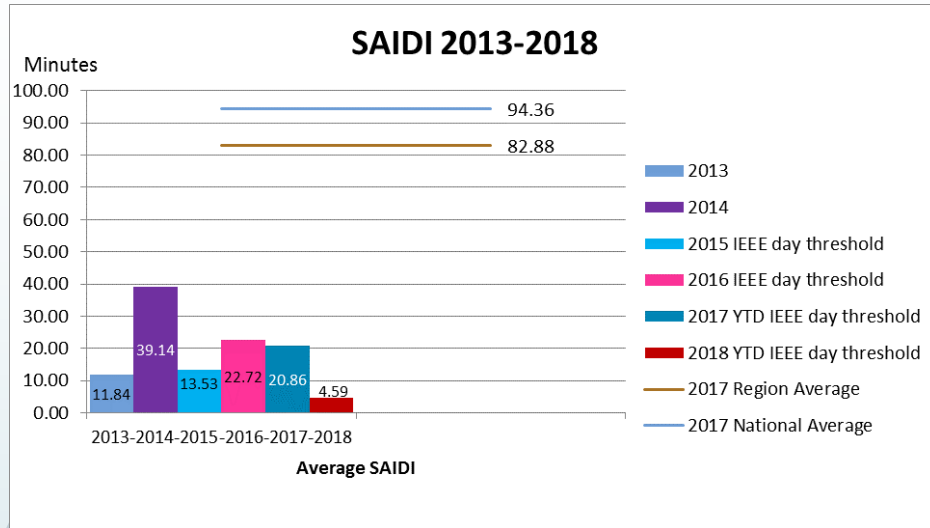
NTG Member and JobType	Count of Ticket Number
<b>LYNNFIELD</b>	
<input type="checkbox"/> CMCTNR	2
<input type="checkbox"/> Comcast Massachusetts TRANSFER	2
<input type="checkbox"/> LFLDFD	6
<input type="checkbox"/> Lynnfield Fire Department TRANSFER	6
<input type="checkbox"/> RMLD	7
<input type="checkbox"/> Reading Municipal Light Department TRANSFER	7
<input type="checkbox"/> VZNEA	1
<input type="checkbox"/> Verizon Massachusetts TRANSFER	1
<input type="checkbox"/> (blank)	6
<b>Grand Total</b>	<b>16</b>

NTG Member and JobType	Count of Ticket Number
<b>NORTH READING</b>	
<input type="checkbox"/> CMCTNR	18
<input type="checkbox"/> Comcast Massachusetts TRANSFER	18
<input type="checkbox"/> NRDGFD	38
<input type="checkbox"/> North Reading Fire Department TRANSFER	38
<input type="checkbox"/> RMLD	45
<input type="checkbox"/> Reading Municipal Light Department TRANSFER	10
<input type="checkbox"/> Reading Municipal Light Department PULL POLE	35
<input type="checkbox"/> VZNEA	7
<input type="checkbox"/> Verizon Massachusetts TRANSFER	6
<input type="checkbox"/> Verizon Massachusetts PULL POLE	1
<input type="checkbox"/> (blank)	1
<b>Grand Total</b>	<b>108</b>

NTG Member and JobType	Count of Ticket Number
<b>READING</b>	
<input type="checkbox"/> CMCTNR	3
<input type="checkbox"/> Comcast Massachusetts TRANSFER	3
<input type="checkbox"/> NP3PMA	4
Non-participating 3rd Party	
<input type="checkbox"/> Attacher - Massachusetts TRANSFER	4
<input type="checkbox"/> RDNGFD	5
<input type="checkbox"/> Reading Fire Department TRANSFER	5
<input type="checkbox"/> RMLD	80
<input type="checkbox"/> Reading Municipal Light Department TRANSFER	26
<input type="checkbox"/> Reading Municipal Light Department PULL POLE	54
<input type="checkbox"/> VZNEA	2
<input type="checkbox"/> Verizon Massachusetts TRANSFER	1
<input type="checkbox"/> Verizon Massachusetts PULL POLE	1
<input type="checkbox"/> (blank)	1
<b>Grand Total</b>	<b>94</b>

NTG Member and JobType	Count of Ticket Number
<b>WILMINGTON</b>	
<input type="checkbox"/> NP3PMA	3
Non-participating 3rd Party	
<input type="checkbox"/> Attacher - Massachusetts TRANSFER	3
<input type="checkbox"/> RMLD	38
<input type="checkbox"/> Reading Municipal Light Department TRANSFER	34
<input type="checkbox"/> Reading Municipal Light Department PULL POLE	4
<input type="checkbox"/> VZNEA	3
<input type="checkbox"/> Verizon Massachusetts TRANSFER	3
<input type="checkbox"/> WLMFIB	11
<input type="checkbox"/> Town of Wilmington TRANSFER	11
<input type="checkbox"/> WMGNFD	88
<input type="checkbox"/> Wilmington Fire Department TRANSFER	88
<input type="checkbox"/> (blank)	1
<b>Grand Total</b>	<b>143</b>

# RMLD Reliability Indices

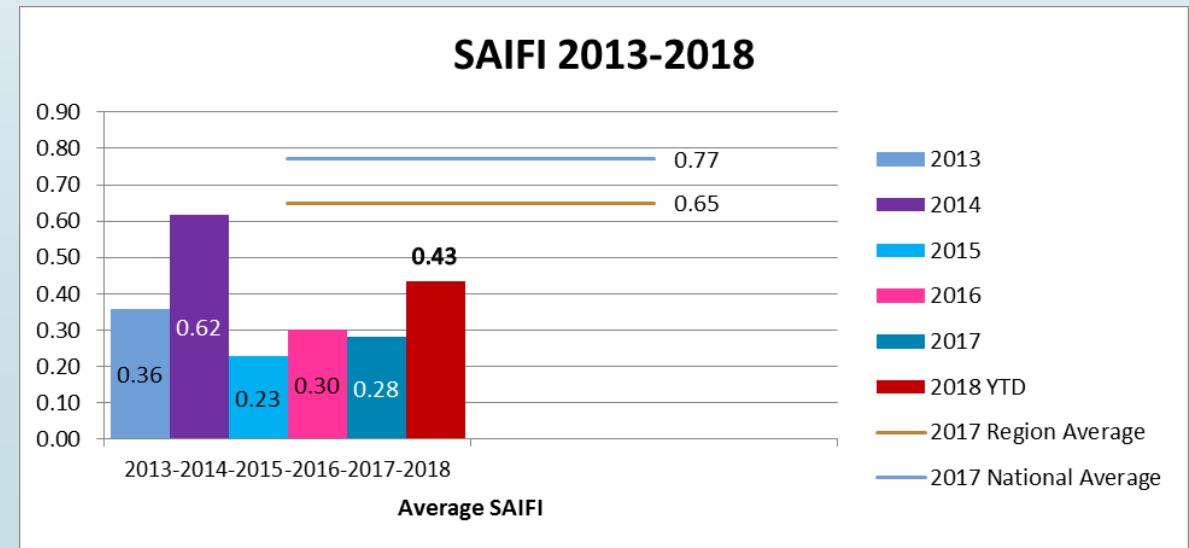


$$SAIDI \text{ (Minutes)} = \frac{\text{Total Duration of Customer Interruptions}}{\text{Total Number of Customers Served}}$$

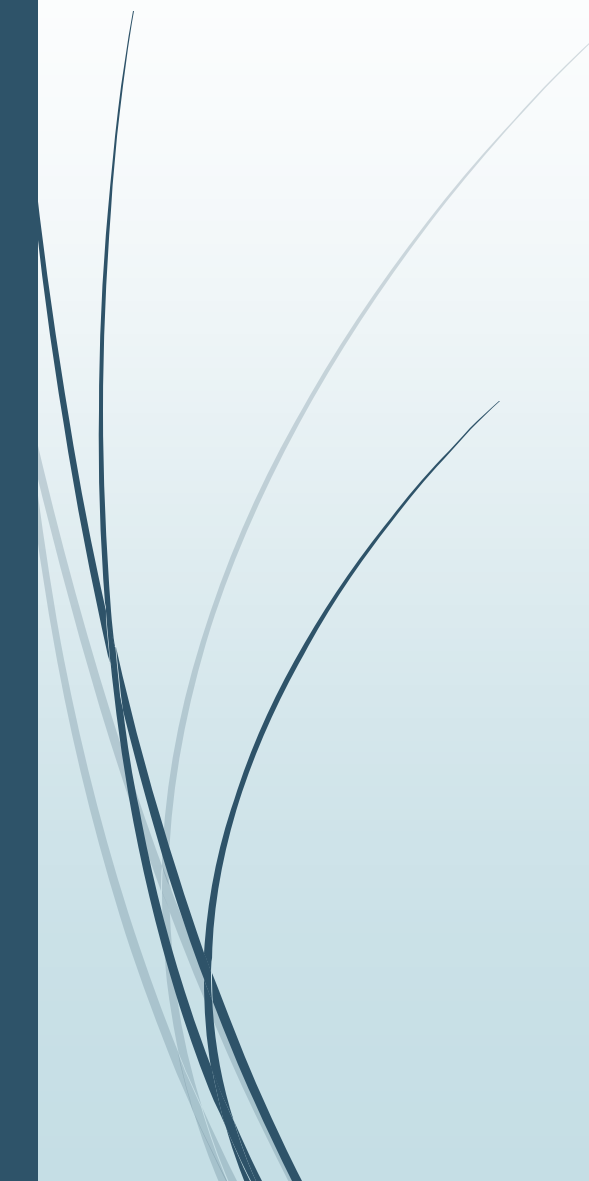
$$CAIDI \text{ (Minutes)} = \frac{\text{Total Duration of Customer Interruptions}}{\text{Total Number of Customers Interruptions}}$$

**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.

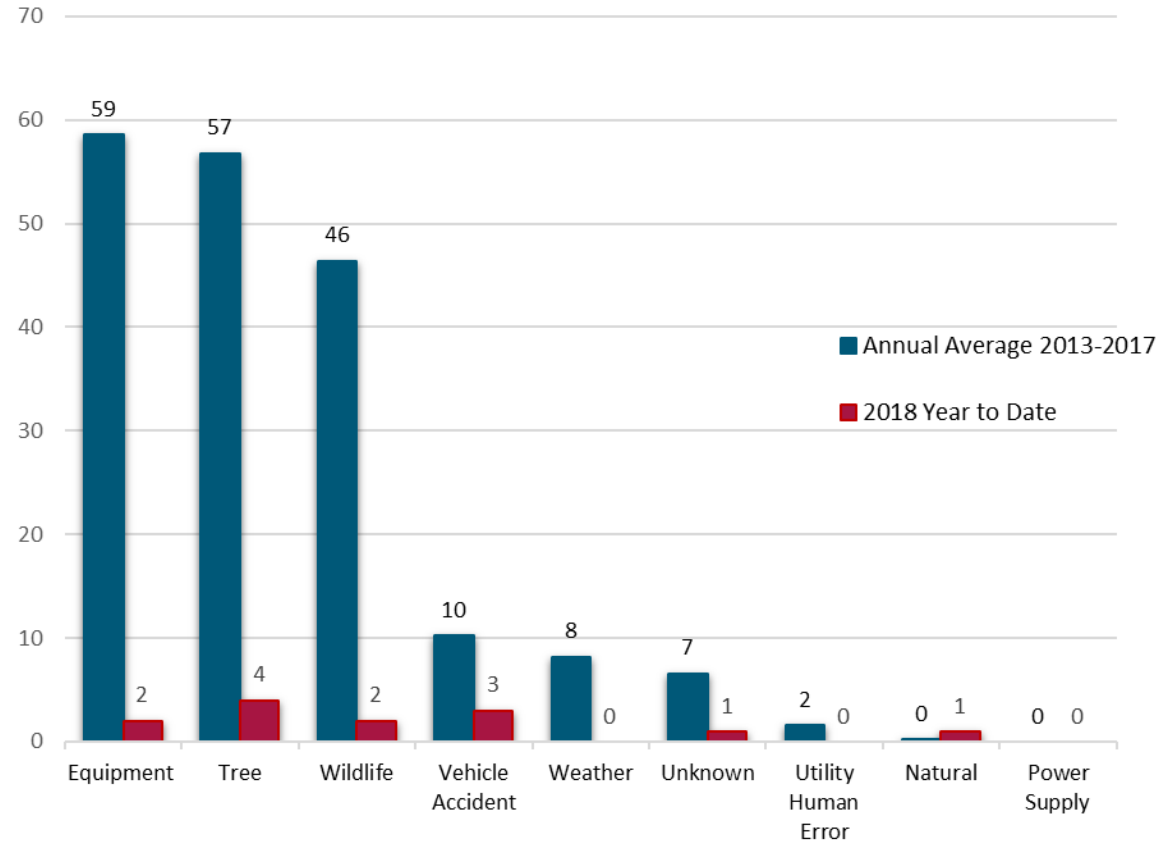
$$SAIFI = \frac{\text{Total Number of Customer Interruptions}}{\text{Total Number of Customers Served}}$$



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



### Causes of Outages as of March 2018



# Questions ?



RMLD PROCUREMENT REQUEST  
REQUIRING BOARD APPROVAL  
ATTACHMENT 6





May 9, 2018

Town of Reading Municipal Light Board

Subject: IFB 2018-44 Electrician Services for Removal of Load Control Module (LCM) and Associated Parts

Pursuant to M.G.L. c. 149/ M.G.L. c. 30, § 39M, on March 26, 2018, an invitation for bid (IFB) requesting sealed bids for Electrical Services was advertised in the Commonwealth of Massachusetts Goods and Services Bulletin. On March 22, 2018, the IFB was posted on COMMBUYS, and on April 4, 2018, it was posed on the RMLD website, the RMLD bulletin board and in the Daily Times Chronicle.

An invitation for bid was sent to the following 20 companies:

<b>All-Tech Electric</b>	<b>Dagle Electrical Construction Corp.</b>
<b>D.M.H. Electrical Contractors</b>	<b>Electrical Construction &amp; Design aka R.J. Puliafico</b>
<b>Electrical Dynamics Inc.</b>	<b>Joe O'Connell Electrical Services</b>
<b>John Savin Electric</b>	<b>J.P. O'Brien Electric</b>
<b>Mike Senarian Electric</b>	<b>Modern Electric Inc.</b>
<b>ONVIA</b>	<b>Prime Vendor, Inc.</b>
<b>Projectdog</b>	<b>Quinn Electric</b>
<b>Sartell Electric Services, Inc.</b>	<b>Spinale Electric Inc.</b>
<b>Town of Lynnfield</b>	<b>Weston &amp; Sampson</b>
<b>Williams Electric, LLC</b>	<b>Your Electrical Solution</b>

Sealed Proposals were received from 6 companies:

<b>All-Tech Electric</b>	<b>D.M.H. Electrical Contractors</b>
<b>Hub Electric Inc.</b>	<b>J.P. O'Brien Electric</b>
<b>Quinn Electric</b>	<b>Your Electrical Solution</b>

The sealed bids were publicly opened and read aloud at 11:00 a.m., April 25, 2018, in the Town of Reading Municipal Light Department's Audio Visual Spurr Room, 230 Ash Street, Reading, Massachusetts.

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

Move that proposal 2018-44 for Electrician Services for Removal of Load Control Module (LCM) and Associated Parts from Residential Homes be awarded to: **All-Tech Electric for \$83,400.00** pursuant to M.G.L. c. 149/ M.G.L. c. 30, § 39M, as the lowest responsive and responsible bidder, on the recommendation of the General Manager.

These services will be paid from the fiscal year Operating Budget.

  
\_\_\_\_\_  
Ben Thivierge

  
\_\_\_\_\_  
Jane Parenteau

  
\_\_\_\_\_  
Coleen O'Brien



BOARD MATERIAL AVAILABLE  
BUT NOT DISCUSSED

**From:** [Tracy Schultz](#)  
**To:** [RMLD Board Members Group: "David Hennessy"](#)  
**Subject:** AP Warrants and Payroll  
**Date:** Friday, May 04, 2018 8:29:00 AM

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Good afternoon,

4.13.18, 4.20.18, and 4.27.18 AP.

4.17.18 and 4.30.18 Payroll.

There were no Commissioner questions. This e-mail will be included in the 5-9-18 Board Book.

Tracy Schultz  
Executive Assistant  
**Reading Municipal Light Department**  
230 Ash Street. Reading. MA. 01867  
Tel: 781.942.6489