

READING MUNICIPAL LIGHT DEPARTMENT



2024 BUDGET

October 1, 2023

Revision 2: November 22, 2023

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RMLD

Mission Statement

RMLD's team mission is to serve our customers with reliable, low cost, and increasingly non-carbon energy.

Vision Statement

RMLD's team vision is to innovatively support electrification and sensibly facilitate the required non-carbon transition, with customer involvement.

SYSTEM PROFILE

(based on CY22)

SERVICE TERRITORY	51 square miles across the four towns of Lynnfield Center, North Reading, Reading, and Wilmington
TOTAL OPERATING REVENUES	\$100,202,359
POWER PURCHASED	\$64,682,635
NUMBER OF CUSTOMERS METERS	31,500
ANNUAL PEAK DEMAND	169,152 kW on August 8, 2022, hour ending 5:00 pm (w/o shaving)
ANNUAL SALES	654,041,390 kWh
PLANT VALUE	Gross: \$181,789,000 Net: \$91,985,000
SUPPLY VOLTAGE	115 Kv
SUPPLY CAPACITY (tie points)	<p>Station 4:</p> <ul style="list-style-type: none"> (3) 60 MVA Transformers (2) 35 MVA Transformers – feeds Station 5 250 MVA Connected, 190 MVA Firm <p>Station 3:</p> <ul style="list-style-type: none"> (2) 60 MVA Transformers 120 MVA Connected, 60 MVA Firm
DISTRIBUTION SYSTEM VOLTAGE	13,800 volt wye 4,160 volt wye
OVERHEAD LINES	921 miles
UNDERGROUND LINES	342 miles
DISTRIBUTION TRANSFORMERS	4,055 Transformers – 330 MVA Capacity
STATION TRANSFORMER CAPACITY	370 MVA Capacity
UTILITY POLES	<p>18,150 poles</p> <p><i>Pole Ownership:</i> 50% Verizon, 50% RMLD</p> <p><i>Pole Custodial (count):</i> 11,300 Verizon, 6,850 RMLD</p> <p><i>Pole Custodial By Town:</i></p> <ul style="list-style-type: none"> North Reading – RMLD Lynnfield – Verizon Reading – part RMLD part Verizon Wilmington <ul style="list-style-type: none"> all poles with 35 kV sub-transmission circuits, and Concord Street – RMLD all other locations in Wilmington – Verizon
EV registered in territory (Dec 2022) ASHP installed in territory (Dec 2022)	940 (battery only; excluding hybrids) ~1,050

APPLICATION SOFTWARE	
	<div> <div> ChargePoint Cloud Services CMARS Constant Contact EFI (Energy Federation) eRequester ESRI eTrack Facility Dude Filezilla Forecast Pro Forecasting Futura Great Plains/Cogsdale Home Energy Audits Yukon ISO-NE Key Accounts CenturionCARES Team Gantt Itron </div> <div> LexisNexis Meraki ManagerPlus MIIsoft – WindMil Map/LightTable NEPOOL GIS Office 365 E3 PoleForeman Replicon SagLine SharePoint SpryPoint Survalent (OMS) Tangent AMP VMware Windows 10 Windows Server 2016, 2012 Adobe Creative Cloud CivicPlus Fortinet </div> </div>
CONTACT INFORMATION	
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Fax:	781-942-2409
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KEY PERSONNEL	
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Director of Finance and Accounting	Benjamin Bloomenthal email: bbloomenthal@rmld.com
Director of People Operations	Sarah Harrington email: sharrington@rmld.com
Director of Information Technology	John Pelletier email: jpelletier@rmld.com
Director of Integrated Resources	Bill Bullock email: bbullock@rmld.com
In-House Counsel	Janet Walsh email: jwalsh@rmld.com
GOVERNING BODY (Oct 2023)	
	Philip B. Pacino David Talbot Marlena Bitá Robert Coulter Pamela Daskalakis
Number of Employees	92
Year Founded	1894



RMLD Strategy Overview

02 October 2023 update

RMLD



Reading Municipal Light Department
RELIABLE POWER

Outline

Mission and Vision

Strategy - executive summary

Context – seismic changes

Owned generation and storage

Distribution network

Key Milestones

RMLD Mission and Vision - Updated

mission (what we do) → vision (where we are going) → strategy (how we get there) → goals (milestones)

Mission

RMLD's team mission is to serve our customers with reliable, low cost, and increasingly non-carbon energy.

Vision

RMLD's team vision is to innovatively support electrification and sensibly facilitate the required non-carbon transition, with customer involvement.

Executive summary – RMLD strategy

RMLD serves Lynnfield Center, North Reading, Reading, and Wilmington with *reliable, low-cost, and non-carbon* electricity

- Reliability is a combination of proactively minimizing external and internal outages and quickly restoring when they occur

2021 Climate Bill is accelerating electrification as part of decarbonization; no softening of legislative targets is expected

- Hence, RMLD load will double, and demand will increase 75% by mid 2040's

Near-term, regional wholesale network supply reliability is increasingly fragile (and over 99% of RMLD energy is wholesale)

- Hence, RMLD needs significant investment (generation / storage assets, data analytics, distribution network, supporting systems (MDM/AMI metering, IT, ...), where asset life ranges from 10 – 40 years
- Energy is a scale business and RMLD should look for ways to gain scale

Wholesale energy and transmission costs are increasing and are highly volatile near-term

- Hence, RMLD costs will increase to support load growth and associated buildout

RMLD has new access to tax credits and numerous grants (new funding sources)

In-territory generation and energy storage require creativity, piloting, and investment

RMLD needs land parcels across service territory to support growth and the associated buildout

RMLD will accelerate investment in its employee team (new skills, process efficiency, data, recruiting, ...)

Context – external to RMLD



Electrification compliance requires 2X to 3X of regional generation capacity by 2050

- Natural gas generation represents half of current mix
- Nat gas generation capacity utilization will drop from 50% to less than 15% (upward cost pressure)
- Massive transmission investment required to support more distributed generation
- Renewable energy is intermittent (no solar PV at night)

Non-carbon energy generation is intermittent and expensive relative to current sources

New England's wholesale energy network in becoming more fragile

- LNG now economically can ship to Europe (EU energy affects US energy; increased volatility)
- Mystic generation (1,600 MW) shuts in May 2024
- Everett LNG Marine Terminal at risk when Mystic closes
- Mass offshore wind (up to 17,000 MWs) significantly delayed and likely more expensive
- Several New England solar PV projects delayed, cost increased, or cancelled; land limited

MLP's, including RMLD, have access to new state and federal incentives and grants

Technology improvements enabling electrification (ASHPs, EVs, V2G, carbon capture, ...)

Context – internal within RMLD

Power supply portfolio solid for current load

- Nearly 90% hedged; compliant with RMLD Policy 30 and already exceeds 2021 Climate Bill goals through 2035
- Weather trends, electrification, and business growth are key load drivers
- More generation and new supply contracts will be required to support growth

Given current daily and seasonal RMLD load shape, RMLD network has capacity of ~220 MW and ~40% capacity utilization and peak load at ~168 MW

RMLD is a unique MLP, having two 115 kV wholesale tie points with Eversource and National Grid

Our core distribution network is primarily 13.8 kV but many poles carry multiple circuits

RMLD has 9 MW of in territory solar generation (none owned; 2% of purchases) and 2.5 MW peak shaving generation

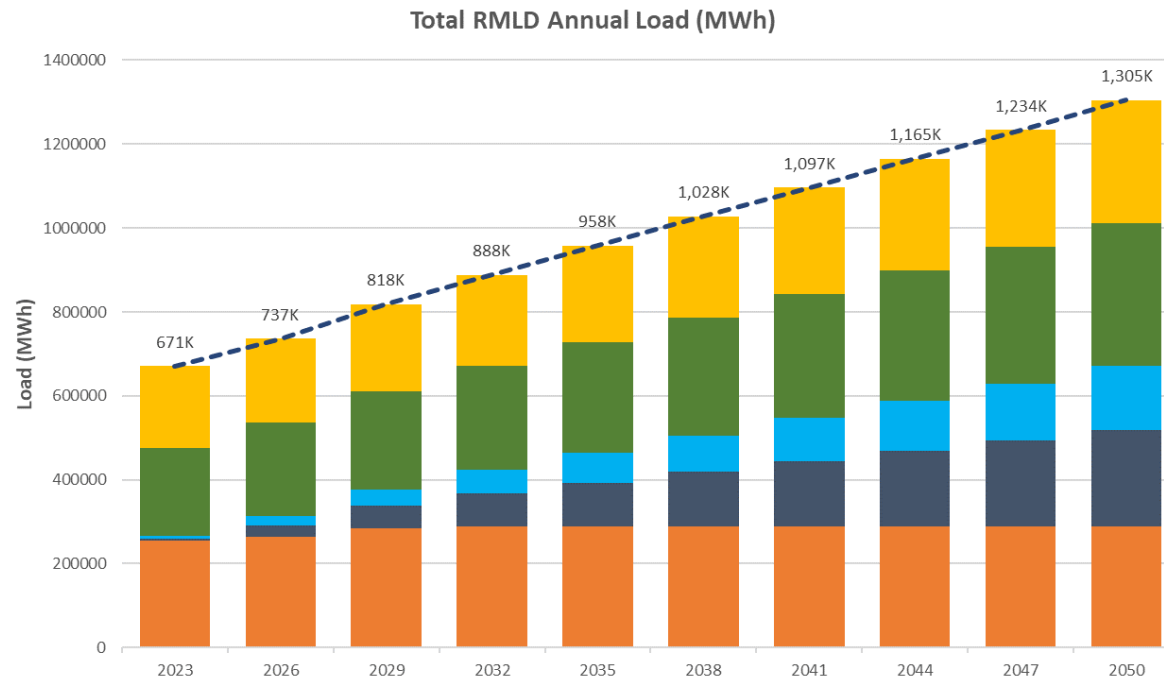
Our 5 MW 2 hour battery storage system will grow to 30 MW 3 hour by early 2025 (reliability enhancement)

RMLD is engaging several long duration (time shifting) and alternate chemistry pilot storage projects

RMLD metering systems have limited capability and replacement is in process (prerequisite MDM scheduled for 2024)

RMLD cost structure enables low rates (70% power supply and 30% operations)

Annual load (MWhs) nearly doubles by 2050



RMLD Total 2.5% cagr (2022 – 2050)

Industrial 1.5% cagr – small scale local manufacturing and local distribution

Commercial 1.8% cagr – ASHP adoption

ASHP Residential 12% cagr – majority (75%) conversion by 2050

EV Residential 17% cagr – nearly full (97%) adoption by 2050

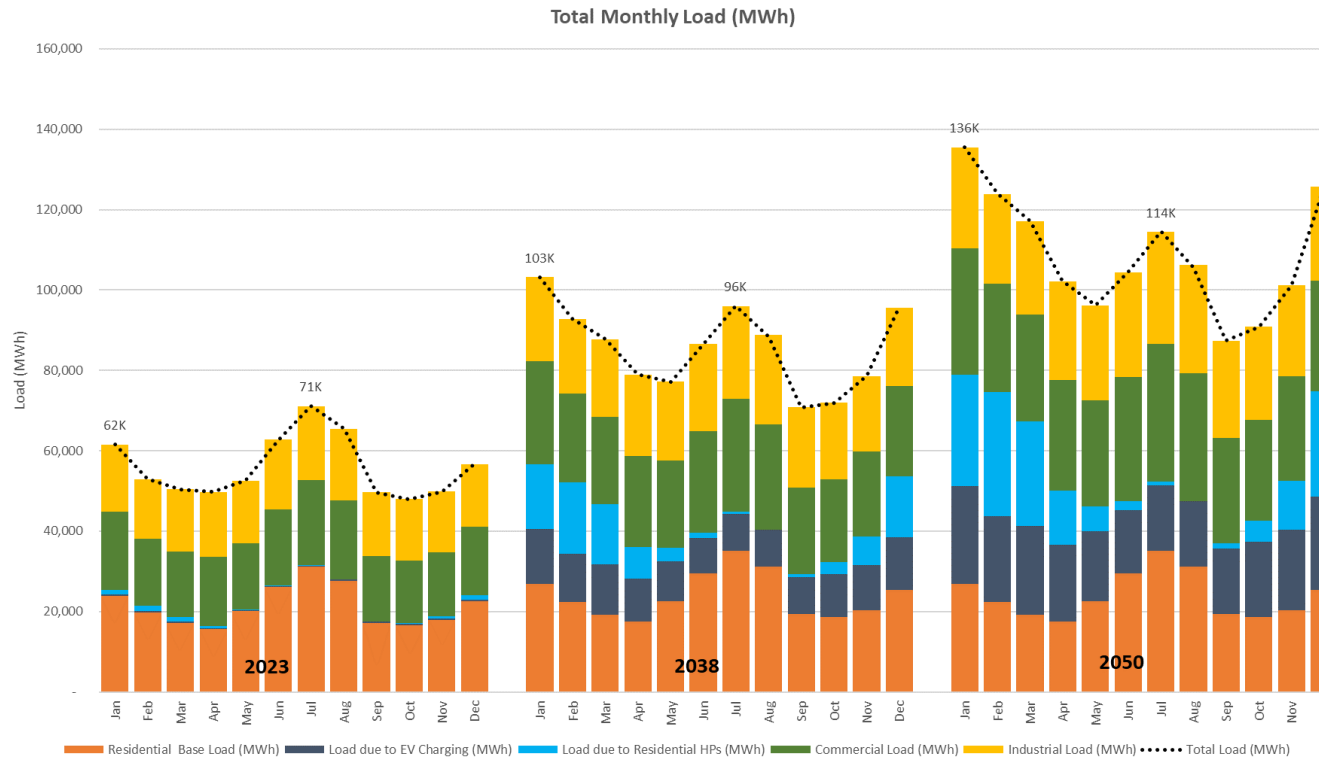
Base Residential 0.5% cagr – limited living unit additions; lower efficiency reductions

Electrification (especially EV) is primary load driver

7

Source: long-term-forecast 2023-10-02; 2023 CELT; RMLD analysis; actual RMLD 2022 is base year and cagr is compound annual growth rate

Monthly load changes significantly



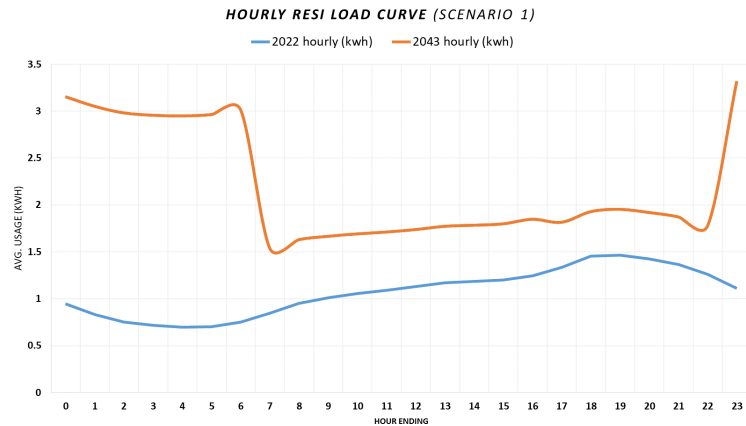
Winter load doubles by 2050

Summer load 60% higher by 2050

Winter (January) highest load beginning in 2030's primarily due to ASHP and EV load additions

EV unit load slightly higher in colder winter months compared to summer months

Dramatic daily load shape changes possible

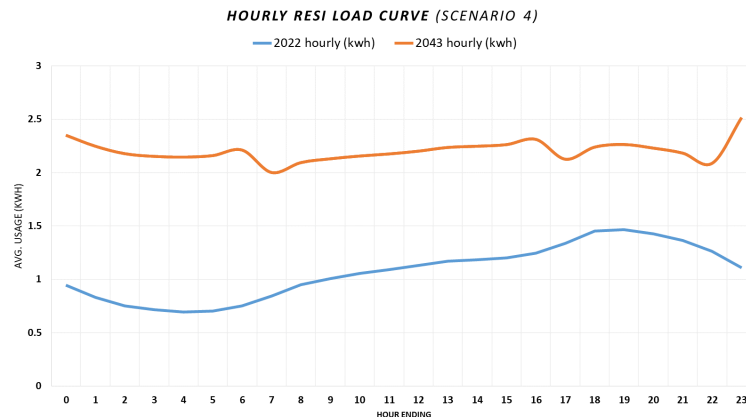


Daily loads shown are average over 365 days

Hence, blue 2022 line looks flat despite 2x range

Weather and season significantly affects daily load curves

Scenario 1 – 80% 10 pm to 6 am; illustration of what can happen if not thought through

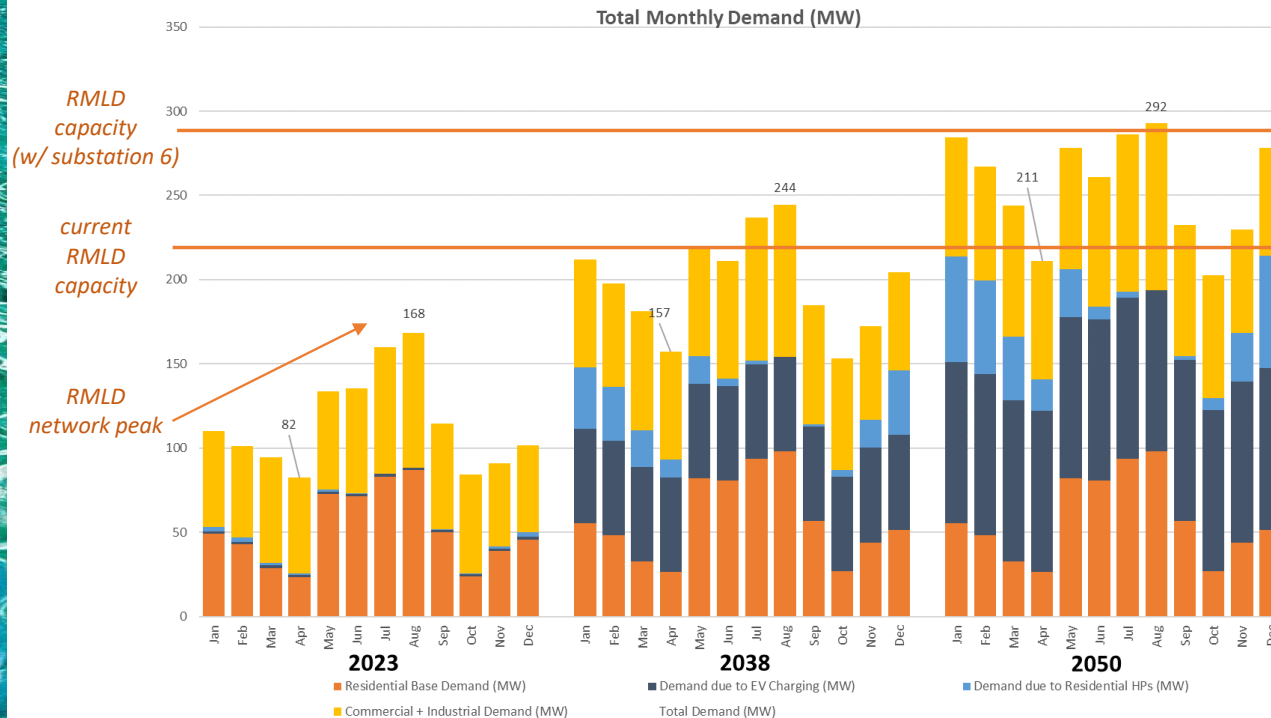


Scenario 4 – 45% overnight; flatter load yields higher utilization; then overlay hour energy pricing

More importantly, time of use rate schedule is critical to influence timing of charging (suggests a customer controlled and RMLD managed expert system)

Discharging (V2G) likely an option to dampen EV load while reducing participating customer monthly bills

Demand (MWs) 75% higher by 2050



- Commercial / Industrial** demand increases primarily first shift; some distribution EV; plus ASHP space heating
- ASHP Residential** mainly winter addition; summer is AC replacement
- EV Residential** based on 20% simultaneous charging (ex pre-storm)
- Base Residential** steady pattern; few living unit additions; few efficiency reductions

Demand growth requires distribution network buildout
Network increasingly bi-directional to support w/in territory generation and storage

10 Source: long-term-forecast 2023-10-02

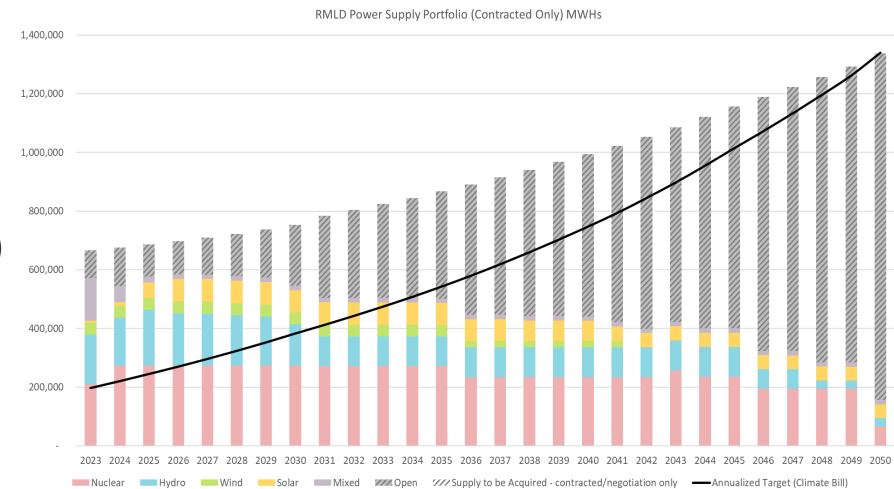
Power supply

Load **increasing** (MWhs growing 2% annually,
30% larger by 2030, 2X larger by 2050)

Non-carbon supply compliance by 2050
(compliant through 2036; non-carbon intermittent; storage needed)

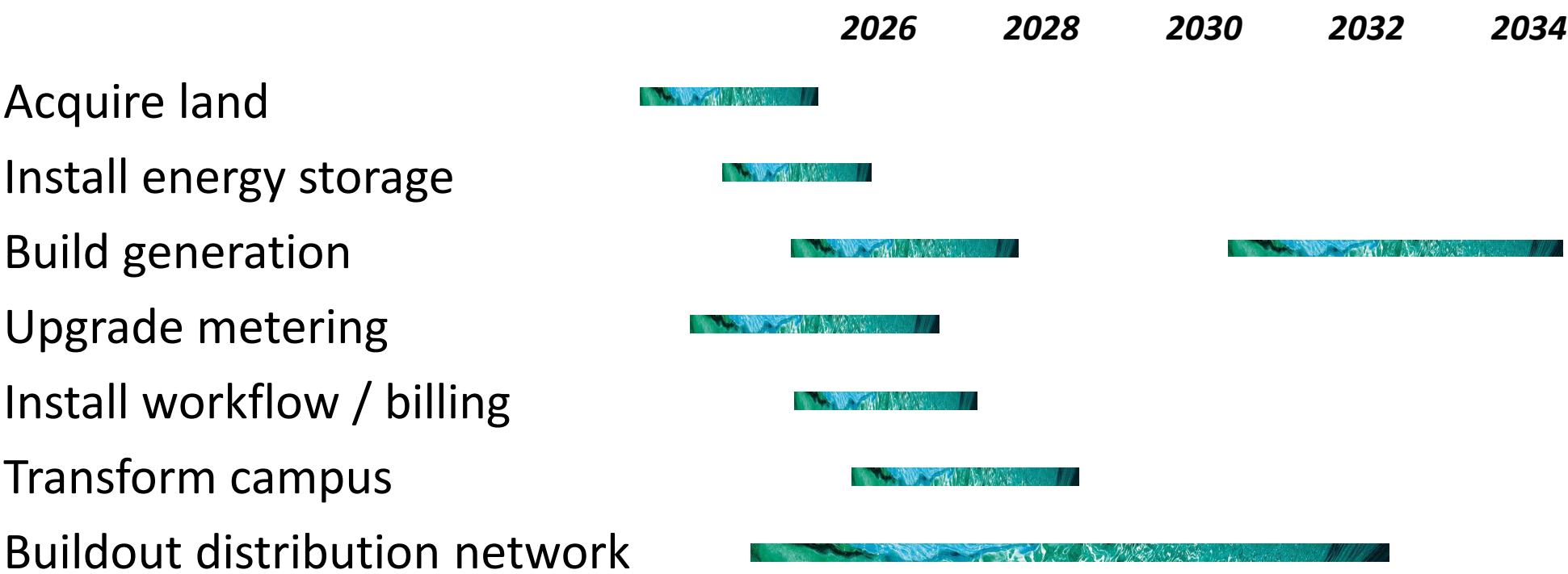
Wholesale supply incurs capacity / transmission costs
(~37% of total RMLD costs and increasing)

W/in territory timing affects **wholesale contracting** in 2030's



11 source: Energy Position MASTER 2X load 2023-04-10

Investment timing – key initiatives



Thank You from the RMLD Team



RMLD



Reading Municipal Light Department
RELIABLE POWER

Department
WER

2024 CAPITAL BUDGET

PLANNED PROGRAMS

READING MUNICIPAL LIGHT DEPARTMENT														
Capital Improvements CY24 thru CY29														
\$ Shown in thousands														
LINE #	PAGE #	TOWN	PROJ #	FERC #	PROJECT NAME	CY23 Budget	CY23 Spend Estimate	CY23 Carry Over	CY24	CY25	CY26	CY27	CY28	CY29
1	31	A	095	390	Building/Grounds Upgrades	150			550	50	50	50	50	
2	33	R	098	391	Office Upgrades - 230 Ash Street	200			225	30	30	30	30	
3	35	A	118	392	Rolling Stock Replacement (vehicles, trailers, fork trucks)	1,497	235	1,263	2,075	640	425	640	425	425
4	37	A	119	398	Security Upgrades - All Sites	325		325	325	30	30	30	30	30
5	41	A	099	392	Electric Vehicle Supply Equipment (EVSE)	964	113	369	0	835	700	528	361	
6	45	A	127	382	Hardware Upgrades	135	53	82	125	125	125	130	135	139
7	47	A	128	383	Software and Licensing	175		175	100	100	110	110	115	118
8	51	A	139	382	IT Infrastructure Enhancements	150		150	0	0	500	300	200	
9	53	A	140	382/383	IT Security	250	10	150	100	100	285	250	250	100
10	57	W/R/NR	102	367	Pad-mount Switchgear Upgrade at Industrial Parks	615	440	175	0					
11	59	A	103		GRID AUTOMATION, MODERNIZATION & OPTIMIZATION									
12				365	Scada- Mate Switches	315	83	232	409	450	495	545	599	599
13				365	IntelliRupter*	150		150	196	215	237	260	286	286
14				365	ABB Reclosers	264		264	290	319	351	386	100	100
15				383	Cap Bank Automation									
16				383	Software Integration	37		37	39	41	43	45	47	47
17				397	Communication to Field Devices	552			302	302	302	302	302	302
18				383	Power Factor Correction/VVO									
19				383	Meter Data Management (MDM)	281		281						
20		W	105		SUBSTATION 6									
21		W		360	Purchase Land in Wilmington									
22	67	W		361/362/366/367	Wilmington Substation Construction & Commissioning	2,993	2,028	964	10,513	7,070	2,667	2,667	2,667	
23	69	A	106	366/367/368	UG Facilities Upgrades (URDs, Manholes, etc.) - All Towns	569	209	359	412	424	437	437	450	464
24	71	A	107	365	13.8kV Upgrade (Step-down Area, etc.) - All Towns	134	303	-169	200	333	302	307	316	325
25	73	A	110	370	Primary Metering Inspection and Upgrade Program	170	40	130	45	100	80			
26	75	R/NR/W	111	362	Substation Equipment Upgrade	177	14	163	50	30	30	30	30	30
27	77	A	112	361/370	AMI Mesh Network Expansion & Meter Replacement	1,290	38	1,253	38	2,509	2,458	2,531		
28	79	A	115	394/395	Power/Lab and Tool Equipment	105	19	86	30	30	30	30	30	30
29	81	A	116	365/366/367/368	Transformers and Capacitors Purchase (Stock and Projects)	6,998	2,656	4,341	2,000	2,000	2,000	2,000	2,000	2,000
30	83	A	117	370	Meters and Primary Meters (for stock)	60	77	-17	80	20	20	20	20	15
31		W	124	364/365	MA-125 Pole Line Installation for New Wilmington Substation					372	372			
32	85	R	133	362	Station 4 CCVT Replacement	193	62	131	0					
33		W	136	364/365	Pole Line Upgrade - Fordham Road, Wilmington	473	473	0	0					
34	87	R/NR	175	364	Pole Replacement Program, R and NR	599	207	393	640	307	316	326	336	340
35	89	W	201	364/365/373	Force Account (MassDOT): Route 38 Bridge over MBTA, W				166					
36	91	W	202	364/365/373	Force Account (MassDOT): Lowell at Woburn Street, W	383	77	307						
37	93	W	206	364/365/373	Force Account (MassDOT): Butters Row over MBTA, W				298					
38	95	R	315	366/367	Johnson Woods- Create Loop				258					
39	97	A	458	365	Overhead Upgrade Program (Primary, Secondary and Main Replacements) All Towns	460	554	-94	380	389	398	398	398	398
40	99	A	668	366/367/368	Aged/Overloaded Transformer Replacement Program	512	169	343	527	543	559	576	593	611
41	101	R	742	366/367	Gazebo Circle, Reading, Underground Feed Relocation	340	50	290						
42	103	W	TBD	360	Maple Meadows (Land)				3,000					
43	105	W	TBD	360	Route 125 Wilmington (Land)				6,000					
44	107	A	various	various	Routine Construction - All Towns	1,458	1,480	-22	1,501	1,546	1,593	1,640	1,690	1,740
45	99	A	various	369	Service Connections (Residential and Commercial) - All Towns	205	105	99	211	217	224	231	238	245
46	n/a	W	TBD	364/365	Industrial Way, Wilmington - Pole Line Upgrade					226	226			
47	n/a	W	TBD	365	Distribution Improvements Associated with New Wilmington Substation					1,000	1,000	500		
48	n/a	R	TBD	364/365	4W24 Partial Circuit Reconductoring						356	30		
49	n/a	W	TBD	364/365	Butters Row, Wilmington - Pole Line Upgrade						378			
					TOTAL	23,352	9,495	13,857	31,085	20,355	17,127	15,328	11,698	8,346

READING MUNICIPAL LIGHT DEPARTMENT							
Capital Improvements CY24 thru CY29							
\$ Shown in thousands							
	CY23	CY24	CY25	CY26	CY27	CY28	CY29
Total Additions:	12,659	31,085	20,355	17,127	15,328	11,698	8,346
	CY23	CY24	CY25	CY26	CY27	CY28	CY29
TABLE 1: PLANT VALUES & DEPRECIATION EXPENSE:							
Plant in Service (Beginning)	171,562	183,788	213,873	233,227	249,354	263,682	274,380
Additions	13,226	31,085	20,355	17,127	15,328	11,698	8,346
Adjustments (Property Retirement)	<u>-1,000</u>	<u>-1,000</u>	<u>-1,000</u>	<u>-1,000</u>	<u>-1,000</u>	<u>-1,000</u>	<u>-1,000</u>
Plant in Service (Ending)	183,788	213,873	233,227	249,354	263,682	274,380	281,726
Less Land and Land Rights	<u>-1,266</u>	<u>-1,266</u>	<u>-1,266</u>	<u>-1,266</u>	<u>-1,266</u>	<u>-1,266</u>	<u>-1,266</u>
Depreciable Plant in Service	182,522	212,607	231,961	248,089	262,417	273,114	280,460
Accumulated Reserve For Depreciation	<u>-91,279</u>	<u>-96,754</u>	<u>-103,132</u>	<u>-110,091</u>	<u>-117,534</u>	<u>-125,406</u>	<u>-133,600</u>
Net Plant in Service	<u>92,509</u>	<u>117,118</u>	<u>130,095</u>	<u>139,263</u>	<u>146,148</u>	<u>148,974</u>	<u>148,126</u>
TABLE 2: DEPRECIATION FUND BALANCES:							
Beginning Balance	13,241	15,697	4,652	1,611	2,242	1,985	5,621
Depreciation Rate (3%)	3%	3%	3%	3%	3%	3%	3%
Depreciation Expense	5,109	5,476	6,378	6,959	7,443	7,872	8,193
Bond Proceeds and Other Fund Sources	376	6,564	4,935	4,800	628	461	100
Operating Fund Transfer	<u>8,000</u>	<u>8,000</u>	<u>6,000</u>	<u>6,000</u>	<u>7,000</u>	<u>7,000</u>	<u>7,000</u>
Capital Funds Ending Balance	26,726	35,737	21,965	19,370	17,313	17,318	20,914
Capital Improvements	-11,028	-31,085	-20,355	-17,127	-15,328	-11,698	-8,346
Ending Balance	15,697	4,652	1,611	2,242	1,985	5,621	12,569
TABLE 3: BOND PROCEEDS & OTHER FUND SOURCES:							
Municipal Bonds/Grants		6,000	4,000	4,000			
New Funding Source							
Force Account (MassDOT): Route 38 Bridge over MBTA, W		166					
Force Account (MassDOT): Lowell at Woburn Street, W	383						
Force Account (MassDOT): Butters Row over MBTA, W		298					
Electric Vehicle Supply Equipment (EVSE)	744		835	700	528	361	
	177						
Interest Income	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>
Subtotals:	<u>376</u>	<u>6,564</u>	<u>4,935</u>	<u>4,800</u>	<u>628</u>	<u>461</u>	<u>100</u>

CAPITAL PROJECTS

Facilities

	Page #	Project #
⌘ Building/Grounds Upgrades	31	095
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⌘ Rolling Stock Replacement (vehicles, trailers, fork trucks)	35	118
⌘ Security Upgrades – All Sites	37	119

CAPITAL PROJECT SUMMARY

Project Name: Building/Grounds Upgrades

Project #: 095

Project Schedule: Annual

Project Manager: Christopher Zaniboni,
Facilities Manager

Reason for Expenditure:

Annual budget allotment for miscellaneous upgrades to RMLD buildings and grounds.

Brief Description/Scope:

Design and replacement of warehouse racks in Barbas building and Station 1.

Barriers:

None anticipated at this time.

Change in Scope of Work from Prior Year:

Not Applicable.

Status Update:

Not Applicable.

CAPITAL PROJECT COST SHEET

PROJECT NAME: Building/Grounds Upgrades

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
RMLD Line Crews 2-man crew - unit rate in weeks			\$7,625	\$7,402	\$920					
			\$0	\$0	\$0	Design and replacement of warehouse racks in Barbas building and Station 1.				\$550,000
			\$0	\$0	\$0					
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews			\$0	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
			\$0	\$0						\$0
			\$0	\$0						\$0
Station Tech: unit rate in hours			\$101	\$99	\$21					
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
Supervision/Project Management			\$0	\$0		Police Details	weeks	\$2,427		\$0
TOTAL LABOR/VEHICLES			\$0	\$0	\$0	TOTAL MATERIALS/OTHER				\$550,000

PROJECT TOTAL: \$550,000

CAPITAL PROJECT SUMMARY

Project Name: Office Upgrades - 230 Ash Street

Project #: 098

Project Schedule: Annual

Project Manager: Christopher Zaniboni,
Facilities Manager

Reason for Expenditure:

Annual budget allotment for miscellaneous office upgrades at 230 Ash Street to accommodate staffing changes and promote efficiency.

Brief Description/Scope:

In 2023 an architect/designer was hired to redesign and develop construction drawings for various office areas at the Ash Street office building.

Areas in need of upgrade/redesign include:

- Grid Asset and Communications (Assistant General Foreman office)
- Materials Management
- Engineering & Operations
- Administration

Barriers:

The scheduling of projects has been negatively impacted due to COVID 19 and the resulting equipment supply chain delays and increased material costs.

Change in Scope of Work from Prior Year:

Office redesign has been expanded to include Administration to remove the wall and install five new cubicles, Engineering & Operations to create two new offices. Additional funds for furniture for new offices.

Status Update:

Will be seeking Citizen's Advisory Board and Board of Commissioner's design approval to go forward with future construction bid.

CAPITAL PROJECT COST SHEET

PROJECT NAME: Office Upgrades - 230 Ash Street

SCHEDULE: CY 23 - CY 24

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
RMLD Line Crews 2-man crew - unit rate in weeks			\$7,625	\$7,402	\$920					
			\$0	\$0	\$0	Redesign and construction of various office spaces at 230 Ash Street Campus				\$425,000
			\$0	\$0	\$0					
			\$0	\$0	\$0					
			\$0	\$0	\$0					
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews			\$0	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
			\$0	\$0						\$0
			\$0	\$0						\$0
Station Tech: unit rate in hours			\$101	\$99	\$21					
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
Supervision/Project Management			\$0	\$0		Police Details	weeks	\$2,427		\$0
TOTAL LABOR/VEHICLES			\$0	\$0	\$0	TOTAL MATERIALS/OTHER				\$425,000

PROJECT TOTAL:	\$425,000
CY 2023 SPENDING	\$200,000
CY2024 SPENDING	\$225,000

CAPITAL PROJECT SUMMARY

Project Name: Rolling Stock Replacement

Project #: 118

Project Schedule: Annual

Project Manager: Christopher Zaniboni,
Facilities Manager

Reason for Expenditure:

Scheduled vehicle replacement, following Fuel Efficiency OP 19-07 FM, and based on the Electrification Program and the "8 to 10" year cycle to reduce maintenance costs and improve reliability. Vehicles removed from the fleet are typically traded-in to the dealer providing the new vehicle.

Brief Description/Scope:

Specifications, bids, and purchase orders will be completed in 2024 for the following:

- One (1) Service Truck – 40' bucket
- One (1) 4.5-ton Stake Body Dump Truck
- One (1) Digger Derrick
- One (1) Forestry Tree Truck
- One (1) Forestry Chipper Forest
- Two (2) Electric 1.5-ton Pick Ups
- Four (4) Gas 1.5-ton Pick Ups

Barriers:

Supply chain issues have caused delays in delivery of vehicles.

Change in Scope of Work from Prior Year:

Not applicable.

Status Update:

- Trouble truck was bid and ordered in 2022; delivery expected end of 2023.
- Van (Grid Asset Management) is expected to be bid and ordered in 2022; was received in 2023.
- Two (2) Pick-Up Trucks ordered and received in 2023.
- Two (2) ePTO material handler was bid and ordered in 2023 delivery anticipated in 2024.

CAPITAL PROJECT COST SHEET

PROJECT NAME: Rolling Stock Replacement

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
RMLD Line Crews 2-man crew - unit rate in weeks			\$7,625	\$7,402	\$920					
			\$0	\$0	\$0	Service Truck with 40' Bucket	each	\$325,000.00	1	\$325,000
			\$0	\$0	\$0	4.5-ton Stake Body Dump Truck	each	\$100,000.00	1	\$100,000
			\$0	\$0	\$0	Digger Derrick	each	\$750,000.00	1	\$750,000
						Forestry Tree Truck	each	\$400,000.00	1	\$400,000
						Forestry Chipper	each	\$100,000.00	1	\$100,000
						Electric 1.5-ton PU Trucks	each	\$80,000.00	2	\$160,000
						Gas 1.5-ton PU Trucks	each	\$60,000.00	4	\$240,000
			\$0	\$0	\$0	Trouble Truck - Ordered (carry-over 22)	each	\$252,419.00	1	\$252,419
			\$0	\$0	\$0	ePTO Material Handler (carry-over 23)	each	\$500,000.00	2	\$1,000,000
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews			\$0	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
			\$0	\$0						\$0
			\$0	\$0						\$0
Station Tech: unit rate in hours			\$101	\$99	\$21					
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
Supervision/Project Management			\$0	\$0		Police Details	weeks	\$2,427		\$0
TOTAL LABOR/VEHICLES			\$0	\$0	\$0	TOTAL MATERIALS/OTHER				\$3,127,419

PROJECT TOTAL: \$2,075,000

CARRY OVER TOTAL: \$1,252,419

CAPITAL PROJECT SUMMARY

Project Name: Security Upgrades – All Sites

Project #: 119

Project Schedule: Annual

Project Manager: Christopher Zaniboni,
Facilities Manager

Reason for Expenditure:

This project represents an annual budget allotment for security upgrades as needed at all RMLD facilities.

Brief Description/Scope:

In 2021 a security consultant was hired to perform a physical security risk assessment for all RMLD properties. This risk assessment outlines a number of recommendations to enhance security at all RMLD facilities. An internal working group has been formed to review and discuss the specifics of each recommendation and then approve and implement recommendations, as necessary.

Barriers:

None anticipated at this time.

Change in Scope of Work from Prior Year:

New security equipment and systems, including perimeter access control, video management systems, and IP camera infrastructure will be procured and installed in 2023 and 2024.

Status Update:

The security working group continued its review of the risk assessment and addressed a number of issues internally. With guidance from the security consultant, a new security system to include perimeter access control, video management systems, and IP camera infrastructure improvements is being designed. An RFP awarded in 2023 based on the security working group. These systems will further mitigate the physical security issues identified in the risk assessment.

CAPITAL PROJECT COST SHEET

PROJECT NAME: Security Upgrades - All Sites

SCHEDULE: CY2023-2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
RMLD Line Crews 2-man crew - unit rate in weeks			\$7,625	\$7,402	\$920					
			\$0	\$0	\$0	Comprehensive Security System Upgrade. Implement recommendations of security consultant such as site access, intrusion detection, increased signage, etc.				\$650,000
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews			\$0	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
			\$0	\$0						\$0
			\$0	\$0						\$0
Station Tech: unit rate in hours			\$101	\$99	\$21					
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
Supervision/Project Management			\$0	\$0		Police Details	weeks	\$2,427		\$0
TOTAL LABOR/VEHICLES			\$0	\$0	\$0	TOTAL MATERIALS/OTHER				\$650,000

PROJECT TOTAL:

\$650,000

2023 CARRY OVER	\$324,605.00
2024 ESTIMATED SPENDING	\$325,000.00

CAPITAL PROJECTS

Integrated Resources

	Page #	Project #
⌘ Electrical Vehicle Supply Equipment (EVSE)	41	099

CAPITAL PROJECT SUMMARY

Project Name: Electric Vehicle Supply Equipment (EVSE)

Project #: 099

Project Schedule: On-going

Project Manager: Bill Bullock, Director of Integrated Resources

Reason for Expenditure:

The goal of the EVSE Project is to expand public charging infrastructure for electric vehicles operating within RMLD's service territory. This project will consist of Level 2 and DC fast charger (DCFC) systems.

The goal of the DCFC portion of the project is to deploy high-speed, plug-in, electric vehicle chargers to provide short-duration charging cycles for electric vehicles. This project increases the deployment of EV technology and availability of remote rapid charging capability, thereby supporting State and local efforts to reduce carbon emissions in both the transportation and energy sectors.

Given that ~80% of EV charging occurs at the residence and another portion at work, RMLD anticipates installing only a couple of dozen public chargers within each town. Installations will take place over the next 7-10 years, with the pace of installations partially driven by utilization and EV adoption.

Brief Description/Scope:

In coordination with town leadership, RMLD identified initial locations for the first few chargers in each of the four towns for installing Level 2 and DCFC charging stations in public parking areas owned by the towns.

All charging stations in this deployment project will be owned, maintained, and operated by RMLD. Commercial and industrial customers continue to have the option to install their own EV chargers on their properties.

Barriers:

None anticipated at this time although changes to public parking policies will take persistence to resolve and then adapt as all parties learn more. In addition, certain locations will require electric supply upgrades.

Change in Scope of Work from Prior Year:

This project continues to evolve and expand.

Status Update:

RMLD was awarded a \$78,150 state grant in July 2021 to install five dual-head units Level 2 chargers: three in Reading and two dual-head units in Wilmington. These units were installed in spring 2022 and have been operating since June 2022.

Municipal sites for EV chargers in Lynnfield and North Reading have been identified. Two chargers are to be installed in Lynnfield and three Level 2 Chargers are to be installed in North Reading. These projects are awaiting right-of-way approvals from the towns to allow RMLD to install them on town-owned properties.

RMLD also received a \$99,136 EVIP grant from the Commonwealth to install the first DC fast charging (DCFC). Supply chain issues delayed delivery of the equipment until mid-2023. The DCFC is installed and energized at the Reading Public Library as of the end of September 2023.

RMLD's installed chargers have seen a steady increase in usage over the last year. An additional grant for multiple Level 2 and DCFC Chargers was submitted in mid-2023 to the US Department of Transportation. The Grant Program is designed for the deployment of EV Charging within 1 mile of interstate highways and RMLD is well positioned along Interstates 93 and 95 to meet the grant application requirements.

CAPITAL PROJECT COST SHEET

PROJECT NAME: Electric Vehicle Supply Equipment (EVSE)

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
			\$7,625	\$7,402	\$920					
			\$0	\$0	\$0					
						Carry-Over from CY 23				\$368,971
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews			\$0	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
			\$0	\$0						\$0
			\$0	\$0						\$0
Station Techs: unit rate in hours			\$101	\$99	\$21					
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
			\$0	\$0		Police Details	weeks	\$2,427		\$0
TOTAL LABOR/VEHICLES			\$0	\$0	\$0	TOTAL MATERIALS/OTHER				\$368,971

CY 23 CARRY OVER TOTAL: \$368,971

CAPITAL PROJECTS

Information Technology

	Page #	Project #
⌘ Hardware Upgrades	47	127
⌘ Software and Licensing	49	128
⌘ IT Infrastructure Enhancements	51	139
⌘ IT Security	53	140

CAPITAL PROJECT SUMMARY

Project Name: Hardware Upgrades

Project #: 127

Project Schedule: Annual

Project Manager: John Pelletier, IT Director

Reason for Expenditure:

Each year RMLD must replace failed or obsolete computers and related equipment, as well as purchase equipment for new users.

Brief Description/Scope:

RMLD will continue to replace one-third of its workstations annually as well as procure ad hoc hardware as needed. Additionally, IT will purchase hardware for new employees, as necessary.

Barriers:

None anticipated at this time.

Change in Scope of Work From Prior Year:

Not applicable.

Status Update:

In 2023 RMLD replaced one-third of the user workstations as well as various hardware and equipment. Most of the work force was transitioned to Dell laptop workstations with docking station desktops set up for mobility.

CAPITAL PROJECT COST SHEET

PROJECT NAME: Hardware Upgrades

SCHEDULE: CY2023

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
RMLD Line Crews 2-man crew - unit rate in weeks			\$7,625	\$7,402	\$920					
			\$0	\$0	\$0	Miscellaneous Hardware (computers, laptops, printers)				\$125,000
			\$0	\$0	\$0					
			\$0	\$0	\$0	Carry Over CY 23:				\$82,472
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews			\$0	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
			\$0	\$0						\$0
			\$0	\$0						\$0
Station Tech: unit rate in hours			\$101	\$99	\$21					
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
Supervision/Project Management			\$0	\$0		Police Details	weeks	\$2,427		\$0
TOTAL LABOR/VEHICLES			\$0	\$0	\$0	TOTAL MATERIALS/OTHER				\$207,472

PROJECT TOTAL: \$125,000

CARRY OVER CY 23: \$82,472

CAPITAL PROJECT SUMMARY

Project Name: Software and Licensing

Project #: 128

Project Schedule: Annual

Project Manager: John Pelletier, IT Director

Reason for Expenditure:

Each year RMLD purchases miscellaneous new software for new users and to update existing users. Additional new software projects may be added at the request of various operating units as outlined below:

Brief Description/Scope:

- *Customer Relationship Management (CMR) Engagement Software:* Cloud-based CRM software that will fully integrate SpryPoint with the Great Plans/Cogsdale system. This item is a carry-over from 2023
- *IT Asset Manager:* This software will allow IT to barcode and asset-tag all equipment as it is added to the production environment. This will help IT better maintain their asset inventory and will help in depreciating and replacing equipment. This item is a carry-over from 2022.

Barriers:

None anticipated at this time.

Change in Scope of Work From Prior Year:

Not applicable.

Status Update:

CAPITAL PROJECT COST SHEET

PROJECT NAME: Software and Licensing

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# of Units		Labor Total (unit rate x labor units)		Vehicle (labor units x vehicle rate)					
	Straight Time	OT	Straight Time	OT		DESCRIPTION	Unit	Unit Rate	# of Units	TOTAL
RMLD Line Crews 2-man crew - unit rate in weeks			\$7,625	\$7,402	\$920					
			\$0	\$0	\$0	Miscellaneous Software				\$50,000
			\$0	\$0	\$0	IT Asset Manager				\$50,000
			\$0	\$0	\$0					
			\$0	\$0	\$0					
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews			\$0	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
			\$0	\$0						\$0
			\$0	\$0						\$0
Station Tech: unit rate in hours			\$101	\$99	\$21					
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
Supervision/Project Management			\$0	\$0		Police Details	weeks	\$2,427		\$0
TOTAL LABOR/VEHICLES			\$0	\$0	\$0	TOTAL MATERIALS/OTHER				\$100,000

PROJECT TOTAL: \$100,000

CAPITAL PROJECT SUMMARY

Project Name: IT Infrastructure Enhancements

Project #: 139

Project Schedule: 2024

Project Manager: John Pelletier, IT Director

Reason for Expenditure:

The RMLD must continually evaluate its IT infrastructure to be sure the environment will accommodate system growth and change, and to remain up to date with current technology and best practices.

Brief Description/Scope:

In 2024 we will address the following items:

- *Network Enhancements:* RMLD will be replacing its core networking stack and substation networking equipment that is well beyond their useful life. The current networking environment needs to be overhauled in order to be better aligned, be more secure, and to take advantage of IT best practices. This overhaul and implementation will provide RMLD with a more robust and reliable network infrastructure.
- Infrastructure to support physical access and security project: RMLD will be building out our infrastructure to support the upcoming physical security project. This will require additional specialized hardware and optical transport components.
- RMLD will be relocating the virtualized environment from the Medford data center to Ash St, backups will be moved to a cloud provider.

Barriers:

Supply chain issues have and may continue to be a concern.

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

Not applicable.

Status Update from Prior Fiscal Year:

CAPITAL PROJECT COST SHEET

PROJECT NAME: IT Infrastructure Enhancements

SCHEDULE: CY2023

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
			\$7,625	\$7,402	\$920					
			\$0	\$0	\$0					
			\$0	\$0	\$0					
			\$0	\$0	\$0	Carry over from CY 23				\$150,000
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews			\$0	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
			\$0	\$0						\$0
			\$0	\$0						\$0
Station Tech: unit rate in hours			\$102	\$99	\$21					
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$199						
Supervision/Project Management			\$0	\$0		Police Details	weeks	\$2,427		\$0
TOTAL LABOR/VEHICLES			\$0	\$0	\$0	TOTAL MATERIALS/OTHER				\$150,000

PROJECT TOTAL: \$150,000

CAPITAL PROJECT SUMMARY

Project Name: IT Security

Project #: 140

Project Schedule: Annual

Project Manager: John Pelletier, IT Director

Reason for Expenditure:

The RMLD is continually monitoring both the cyber and internal environments to assess and respond to threats. Systems must be added and/or updated to respond to these threats. The projects listed below are planned for 2024 in order to maintain the security and integrity of RMLD data assets.

Brief Description/Scope:

- *Network monitoring and vulnerability management: This includes network monitoring tools as well as vulnerability detection and management for both the IT and OT environments.*
- *Multifactor Authentication: RMLD is in the process of requiring MFA for all users who access sensitive information.*
- *Information Security (Miscellaneous): This is an allotment to address unforeseen security issues which may arise during the year.*

Barriers:

None anticipated at this time.

Change in Scope of Work from Prior Year:

Not applicable.

Status Update:

RMLD IT has implemented Tenable IO in the IT environment and is in the process of implementing Tenable OT in the OT environment. We have also installed PathSolution to monitor hardware status and availability.

CAPITAL PROJECT COST SHEET

PROJECT NAME: IT Security

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
			\$7,625	\$7,402	\$920					
						Network Visibility Software	project			\$50,000
			\$0	\$0	\$0	Security Information Event Manager	project			\$50,000
			\$0	\$0	\$0	Carry Over CY 23				\$150,000
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews			\$0	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
			\$0	\$0						\$0
			\$0	\$0						\$0
Station Tech: unit rate in hours			\$101	\$99	\$21					
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
Supervision/Project Management			\$0	\$0		Police Details	weeks	\$2,427		\$0
TOTAL LABOR/VEHICLES			\$0	\$0	\$0	TOTAL MATERIALS/OTHER				\$250,000

PROJECT TOTAL: \$100,000

CARRY OVER CY 23: \$150,000

CAPITAL PROJECTS

System

	Page #	Project #
⌘ Pad-mount Switchgear Upgrade at Industrial Parks	57	102
⌘ Grid Automation, Modernization & Optimization	59	103
⌘ New Wilmington Substation	67	105
⌘ Underground Facilities Upgrades (URDs, Manholes, etc.) - All Towns	69	106
⌘ 13.8kV Upgrade (Step-down Area, etc.) - All Towns	71	107
⌘ Primary Metering Inspection and Upgrade Program	73	110
⌘ Substation Equipment Upgrade	75	111
⌘ AMI Mesh Network Expansion and Meter Replacement	77	112
⌘ Power/Lab and Tool Equipment	79	115
⌘ Transformers and Capacitors Purchase (Stock and Projects)	81	116
⌘ Meters and Primary Meters (for stock)	83	117
⌘ Station 4 CCVT Replacement	85	133
⌘ Pole Replacement Program	87	175
⌘ Force Account (MassDOT): Route 38 Bridge over MBTA, W	89	201
⌘ Force Account (MassDOT): Lowell at Woburn Street, W	91	202
⌘ Force Account (MassDOT): Butters Row over MBTA, W	93	206
⌘ Johnson Woods Loop, R	95	315
⌘ Overhead Upgrade Program (Primary, Secondary and Main Replacements) - All Towns	97	458
⌘ Aged/Overloaded Transformer Replacement Program – All Towns	99	668
⌘ Gazebo Circle, Reading, Underground Feed Relocation	101	742
⌘ Maple Meadows Land	103	TBD
⌘ Route 125 Wilmington Land	105	TBD
⌘ Service Connections (Residential and Commercial) - All Towns	107	Various
⌘ Routine Construction – All Towns	109	Various

CAPITAL PROJECT SUMMARY

Project Name: Pad-mount Switchgear Upgrade at Industrial Parks

Project #: 102

Project Schedule: FY18-CY24

Project Manager: Peter Price,
System 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:

Purchased new units to replace live front pad-mounted switchgear. New units will be dead front with provisions for remote/supervisor control.

Barriers:

Delivery of three switchgear ordered in FY18 was significantly delayed, which has pushed back the installation schedule for all switchgear. Supply chain issues in 2022 has delayed the delivery and installation of switches.

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

Installation of four regular switchgear, and receipt and installation of two motor operated switchgear will be delayed until 2023.

Status Update From Prior Year:

Installation of switches including two motor operated style units in 2024.

CAPITAL PROJECT COST SHEET

PROJECT NAME: Pad-Mount Switchgear Upgrade at Industrial Parks

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
RMLD Line Crews 2-man crew - unit rate in weeks			\$7,625	\$7,402	\$920					
						Carry over from CY 23				\$174,518
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
			\$0	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
			\$0	\$0						\$0
Station Techs: unit rate in hours			\$101	\$99	\$21					
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
			\$0	\$0		Police Details	weeks	\$2,427		\$0
TOTAL LABOR/VEHICLES			\$0	\$0	\$0	TOTAL MATERIALS/OTHER				\$174,518

CARRY OVER FROM CY 23:	\$174,518
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CAPITAL PROJECT SUMMARY

Project Name: Grid Automation, Modernization
& Optimization

Project #: 103

Project Schedule: On-going **Project Manager:** Peter Price, System Engineer
Brian Smith, System Engineer
Vaughan Bryan, 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 the Grid Automation, Modernization and Optimization Road Map including installation and integration of smart switches, IntelliRupters, capacitor banks and Volt Var Optimization (VVO) and controls, cyber security, simulators, fiber rationale connections, Fault Detection Isolation and Restoration (FDIR), economic dispatch, and overall system integration, including GIS and AMI/MDM.

Barriers:

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

Change in Scope of Work From Prior Year:

In 2023 the US cellular end system was installed at the RMLD. This system is being piloted as a means of communicating with devices that cannot be connected directly to a fiber connection. Two capacitors and a Scadamate switch have been connected. RMLD is currently in the process of working on an intellirupter and a recloser. Once the testing is completed, approximately 20 devices will be connected directly to SCADA in 2024. RMLD has installed VVO software on its SCADA to minimize system losses by turning capacitor banks on/off as the system load demands KVAR. The testing is awaiting the installation of new SCADA servers to be installed. The system is being tested for functionality to be available as soon as the cellular communication system is tested and accepted. Both VVO and FDIR modules will be integrated with SCADA and OMS to optimize system performance and minimize outage durations when customers experience outages due to system faults.

CAPITAL PROJECT COST SHEET

PROJECT NAME: Grid Modernization & Optimization
Scada-Mate Switches

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
RMLD Line Crews 2-man crew - unit rate in weeks			\$7,625	\$7,402	\$920					
Install Scada-Mate switches and controls	2.0		\$15,250	\$0	\$1,840	Scada-Mate CX Switch	each	\$35,000.00	4	\$140,000
Replace pole, install bypass disconnects, transfer primary, secondary, etc.	7.0		\$53,374	\$0	\$6,440	55' pole, x-arms, brackets, guys, anchors, miscellaneous hardware, etc.	per switch	\$4,000.00	4	\$16,000
			\$0	\$0	\$0	6801 IntelliTeam License	per switch	\$3,200.00	4	\$12,800
Install three (3) repeaters/radios per switch	1.0		\$7,625	\$0	\$920	S&C repeaters/radios	each	\$3,800.00	12	\$45,600
Install antennas	2.0		\$15,250	\$0	\$1,840	Antennas for radios	each	\$850.00	6	\$5,100
						Carry Over from CY 23				\$231,704
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews	120.0		\$13,939	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
PoleForeman, construction drawings, etc.	40.0		\$4,360	\$0						\$0
Prepare switching orders, order materials, establish communication	40.0		\$4,360	\$0						\$0
Station Techs: unit rate in hours			\$101	\$99	\$21					
Controls, programming, commissioning, etc.	80.0		\$8,120	\$0	\$1,680					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
Controls, programming, commissioning, etc.	40.0		\$4,918	\$0		Police Details	weeks	\$2,427	4.0	\$9,708
TOTAL LABOR/VEHICLES			\$127,197	\$0	\$12,720	TOTAL MATERIALS/OTHER				\$268,040

PROJECT TOTAL: \$407,957

CARRY OVER FROM CY 23: \$231,704

CAPITAL PROJECT COST SHEET

PROJECT NAME: Grid Modernization & Optimization
IntelliRupters

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
RMLD Line Crews 2-man crew - unit rate in weeks			\$7,625	\$7,402	\$920					
Install IntelliRupter Switches	2		\$15,250	\$0	\$1,840	IntelliRupter Switches	each	\$50,000.00	2	\$100,000
Replace pole, install bypass disconnects, transfer primary, secondary, etc.	3		\$22,874	\$0	\$2,760	55' pole, cross-arms, brackets, guys, anchors, miscellaneous hardware, etc.	per switch	\$3,700.00	2	\$7,400
			\$0	\$0	\$0	IntelliRupter License/IntelliTeam License	each	\$3,000.00	2	\$6,000
						Carry Over from CY 23				\$150,387
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews	40.0		\$4,646	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
PoleForeman, construction drawings, etc.	32		\$3,488	\$0						\$0
Prepare switching orders, order materials, establish communication	32		\$3,488	\$0						\$0
Station Techs: unit rate in hours			\$101	\$99	\$21					
Controls, programming, commissioning, etc.	64		\$6,496	\$0	\$1,344					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
Controls, programming, commissioning, etc.	16		\$1,967	\$0		Police Details	weeks	\$2,427	2.0	\$4,854
TOTAL LABOR/VEHICLES			\$58,211	\$0	\$5,944	TOTAL MATERIALS/OTHER				\$127,962

PROJECT TOTAL: \$192,117

CARRY OVER FROM CY 23: \$150,387

CAPITAL PROJECT COST SHEET

PROJECT NAME: Grid Modernization & Optimization
ABB Reclosers

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
RMLD Line Crews 2-man crew - unit rate in weeks			7,625	\$7,402	\$920					
Install reclosers and controls	1.0		7,625	\$0	\$920	ABB Reclosers	each	\$30,000.00	4	\$120,000
Replace pole, install bypass disconnects, transfer primary, secondary, etc.	6.0		45,749	\$0	\$5,520	55' pole, x-arms, brackets, guys, anchors, miscellaneous hardware, etc.	per recloser	\$3,000.00	4	\$12,000
			\$0	\$0	\$0	Bypass disconnects	each	\$1,000.00	12	\$12,000
			\$0	\$0	\$0	Contractor assist with recloser settings	per recloser	\$1,800.00	4	\$7,200
						Carry Over from CY 23				\$263,571
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews	120.0		\$13,939	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
PoleForeman, construction drawings, etc.	40.0		\$4,360	\$0						\$0
Prepare switching orders, order materials, establish communication	40.0		\$4,360	\$0						\$0
Station Techs: unit rate in hours			\$101	\$99	\$21					
Controls, programming, commissioning, etc.	80.0		\$8,120	\$0	\$1,680					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
Controls, programming, commissioning, etc.	40.0		\$4,918	\$0		Police Details	weeks	\$2,427	4.0	\$9,708
TOTAL LABOR/VEHICLES			\$89,073	\$0	\$8,120	TOTAL MATERIALS/OTHER				\$190,032

PROJECT TOTAL: \$287,225

CARRY OVER FROM CY 23: \$263,571

CAPITAL PROJECT COST SHEET

PROJECT NAME: Grid Modernization & Optimization
Software Integration

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
RMLD Line Crews 2-man crew - unit rate in weeks			\$7,625	\$7,402	\$920					
			\$0	\$0	\$0	Services from vendor for integration of AMI and various devices				\$26,500
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0	Carry Over from CY 23				\$37,200
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision			\$0	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
Work with vendor for software integration	80.0		\$8,721	\$0						\$0
Station Techs: unit rate in hours			\$101	\$99	\$21					
Work with vendor for software integration	24.0		\$2,436	\$0	\$504					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
Supervision	8.0		\$984	\$0		Police Details	weeks	\$2,427		\$0
TOTAL LABOR/VEHICLES			\$12,141	\$0	\$504	TOTAL MATERIALS/OTHER				\$26,500

PROJECT TOTAL: \$39,145

CARRY OVER FROM CY 23: \$37,200

CAPITAL PROJECT COST SHEET

PROJECT NAME: Grid Modernization & Optimization
Communication to Field Devices

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
RMLD Line Crews 2-man crew - unit rate in weeks			\$7,625	\$7,402	\$920					
			\$0	\$0	\$0	Contractor: Cellular Modem	each	\$1,200.00	20	\$24,000.00
			\$0	\$0	\$0	Configuration and Installation of 20 distribution automation devices	each	\$1,000.00	20.0	\$20,000.00
			\$0	\$0	\$0	Cellular Contractor for Configuration	each	\$5,000.00	20.0	\$100,000.00
						Carry Over from CY 23				\$552,468.00
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews			\$0	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
Assit With Device installation	640.0		\$69,768	\$0						\$0
			\$0	\$0						\$0
Station Techs: unit rate in hours			\$101	\$99	\$21					
Assit With Device installation	160.0		\$16,240	\$0	\$3,360					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
		0.0	\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$122.96	\$119						
Supervision of Meter crews		0.0	\$0	\$0		Police Details	weeks	\$2,427	2.0	\$4,854
TOTAL LABOR/VEHICLES			\$86,008	\$0	\$3,360	TOTAL MATERIALS/OTHER				\$148,854

PROJECT TOTAL: \$238,222

CARRY OVER FROM CY 23: \$552,468

CAPITAL PROJECT COST SHEET

PROJECT NAME: Grid Modernization & Optimization
Meter Data Management (MDM)

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
RMLD Line Crews 2-man crew - unit rate in weeks			\$7,625	\$7,402	\$920					
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0	Carry Over from CY 23				\$280,700
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
										\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
			\$0	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
			\$0	\$0						\$0
			\$0	\$0						\$0
Station Techs: unit rate in hours			\$101	\$99	\$21					
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
			\$0	\$0		Police Details	weeks	\$2,427		\$0
TOTAL LABOR/VEHICLES			\$0	\$0	\$0	TOTAL MATERIALS/OTHER				\$280,700

CARRY OVER FROM CY 23: \$280,700

CAPITAL PROJECT SUMMARY

Project Name: Substation 6

Project #: 105

Project Schedule: FY17-CY2025

Project Manager: Peter Price, System Engineer

Reason for Expenditure:

Substation 5 in Wilmington has reached the end of its useful life. The new substation 6 will replace or partial offload Substation 5, while also providing added benefit to RMLD by providing additional capacity for electrification and load growth in RMLD service territory.

Brief Description/Scope:

RMLD will build a new 115kV/13.8 kV substation in Wilmington in the Ballardvale/ Route 125 area. The new substation will include two 75 MVA transformers and 15kV switchgear with eight (or more as needed) feeder/breaker positions. This new substation will also provide backup and load relief for Substation 3, Substation 4, and Substation 5.

Barriers:

Timely delivery of equipment and outsourced service.

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

\$5m increase in the cost of the two transformers due to the cost of raw materials and supply-chain disruptions.

Status Update From Prior Year:

In CY2023 RMLD with contract for the purchase of two (2) 75 MVA, 115 kV/13.8 kV substation transformers. The units will be slated for delivery in the spring of CY2025. The System Impact Study has been completed in CY2023. PLM will begin the process of preparing two bids, one for the 15 kV substation switchgear and components and the other for the 115 kV structures and equipment.

CAPITAL PROJECT COST SHEET

PROJECT NAME: Substation 6
Construction and Commissioning

SCHEDULE: CY2023-25

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
RMLD Line Crews 2-man crew - unit rate in weeks			\$7,625	\$7,402	\$920					
			\$0	\$0	\$0	Power Transformers				\$7,600,000
			\$0	\$0	\$0	15kV Switchgear				\$3,500,000
			\$0	\$0	\$0	Substation Equipment Package				\$750,000
			\$0	\$0	\$0	Construction Contractor				\$2,400,000
			\$0	\$0	\$0	Testing and Commssioning				\$120,000
			\$0	\$0	\$0	Getaways				\$3,000,000
			\$0	\$0	\$0	Indirects				\$320,000
			\$0	\$0	\$0	Distribution (Overhead)				\$1,710,000
			\$0	\$0	\$0	Fiber				\$75,000
			\$0	\$0	\$0	Contingency				\$1,000,000
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews			\$0	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
Oversite and Management of Project	954.0		\$104,000	\$0						\$0
			\$0	\$0						\$0
Station Techs: unit rate in hours			\$101	\$99	\$21					
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Technical Services Manager: unit rate in hours			\$123	\$119						
Supervision/Project Management			\$0	\$0		Police Details	weeks	\$2,427		\$0
TOTAL LABOR/VEHICLES			\$104,000	\$0	\$0	TOTAL MATERIALS/OTHER				\$28,575,000

PROJECT TOTAL: \$28,575,000

2023 ESTIMATED SPENT	\$2,028,429
2023 CARRY OVER	\$964,071
2024 ESTIMATED SPENDING	\$10,512,500
2025 ESTIMATED SPENDING	\$7,069,500
2026 ESTIMATED SPENDING	\$2,666,666
2027 ESTIMATED SPENDING	\$2,666,666
2028 ESTIMATED SPENDING	\$2,666,666

CAPITAL PROJECT SUMMARY

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

Project #: 106

Project Schedule: Annual

Project Manager: All Engineers

Reason for Expenditure:

There are 210 +/- underground residential subdivisions in the RMLD service territory, of which, 80 +/- 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 padmount 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 preventing premature rusting and corrosion of the transformers. Manholes in the underground areas are also aging and may need to be replaced.

Brief Description/Scope:

Replace primary and neutral cables, and padmount transformers as needed in the various URDs. The precast transformer pads will be replaced with fiberglass box pads as needed for elevation requirements. Certain areas will be targeted each year. Areas targeted for 2024 include Baldwin Lane, Acorn Knoll, and Hidden Pond Lane, North Reading; Serenoa Lane, Nelson Way and Flynn Way, Arlene Ave & Ring Ave in Wilmington; and Zachary Lane, in Reading; and Pocahontas Way in Lynnfield; In 2024 we will continue with inspection of manholes to determine which manholes will need to be scheduled for replacement.

Barriers:

Availability of transformers due to supply chain issues.

Change in Scope of Work From Prior Year:

No notable change.

Status Update:

Area upgrades either completed or expected to be completed by the end of 2023 include:

- Perkins Lane, Lynnfield
- Pleasant Street (Completed), Equestrian Drive (Completed) and Strawberry Lane in North Reading (In Progress)

CAPITAL PROJECT COST SHEET

PROJECT NAME: Underground Facilities Upgrades
(URDs, Manholes, etc.)

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
RMLD Line Crews 2-man crew - unit rate in weeks			\$7,625	\$7,402	\$920					
Replace underground and neutral cable (with contractor assist)	18		\$133,689	\$0	\$16,131	#2 CU 15 kV cable and neutral	foot	\$6.00	26,300	\$157,800
Splice, terminate, elbows, grounding, etc. (with contractor assist)	4		\$26,687	\$0	\$3,220	Splices, elbows, terminations, tape connectors, hardware, etc.	each	\$200.00	70	\$14,000
Transformer replacement and crabbing (with contractor assist)	4		\$28,593	\$0	\$3,450	Transformer box pads	each	\$500.00	25	\$12,500
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
Assist RMLD crews to replace URD and neutral cables (assist RMLD crews)	18		\$190,763		\$24,547					\$0
Splice, terminate, elbows, grounding, etc. (assist RMLD crews)	4		\$38,080		\$4,900					\$0
Transformer replacement and crabbing (assist RMLD crews)	3.8		\$40,800		\$5,250					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews	169		\$19,584	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
Switching, scheduling, notices, plans, etc.	300		\$32,704	\$0						\$0
Station Techs: unit rate in hours			\$101	\$99	\$21					
Testing cables and transformers	75		\$7,612	\$0	\$1,575					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
Supervision/Project Management	25		\$3,074	\$0		Police Details	weeks	\$2,427	2.0	\$4,854
TOTAL LABOR/VEHICLES			\$521,586	\$0	\$59,072	TOTAL MATERIALS/OTHER				\$189,154

BUDGET CY 24:	\$412,000
CARRY OVER CY 23:	\$359,000
PROJECT TOTAL:	\$769,812

Note: Transformers for this project are purchased under Project 116

CAPITAL PROJECT SUMMARY

Project Name: 13.8kV Upgrades (Step-down Areas, etc.)
All Towns

Project #: 107

Project Schedule: Annual

Project Manager: All Engineers

Reason for Expenditure:

It is expected that at the conclusion of all work in the step-down conversion areas in 2023 that there will be 8 step-down areas remaining in the RMLD service territory awaiting conversion to 13.8kV. These areas on the RMLD distribution system were originally fed from 4.16 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. Due to supply chain issues, we shifted 4 step-down areas to CY24 from CY23. The areas targeted for 2024 are Faulkner Avenue in Wilmington, Orchard Drive in North Reading, Edward Avenue in Lynnfield, and Whitehall Lane in Reading. Plus the addition of Marblehead St, North Reading.

Barriers:

Transformer supply chain issues may prevent the area conversions from being completed until we receive delivery of the 2024 pole-mount transformers.

Change in Scope of Work From Prior Year:

Not applicable.

Status Update:

Areas completed in 2023 include:

- Linwood Ave, North Reading
- Dorchester Ave, Wilmington
- Lakeview Ave, Reading

CAPITAL PROJECT COST SHEET

PROJECT NAME: 13.8kV Upgrades (Step-down Areas, etc.)

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
RMLD Line Crews 2-man crew - unit rate in weeks			\$7,625	\$7,402	\$920					
RMLD to frame 20 poles for new primary cable (guying and anchors as needed). NOTE: Verizon Set	4		\$30,499	\$0	\$3,680	Hardware, insulators, connectors, guys, cutouts, taps, brackets, ground rods, etc.	per pole	\$350.00	20	\$7,000
Install 2,500' of single-phase primary cable, energize and cutover	4		\$30,499	\$0	\$3,680	1/0 AAAC primary	foot	\$2.00	2,500	\$5,000
Transfer (6) pole-mount transformers	2		\$15,250	\$0	\$1,840					
Remove old primary cable	2		\$15,250	\$0	\$1,840	Carry Over (CY23)				\$30,996
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews	24.0		\$2,788	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
PoleForeman, 605As, construction drawings, switching orders, etc.	24		\$2,616	\$0						\$0
			\$0	\$0						\$0
Station Tech: unit rate in hours			\$101	\$99	\$21					
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
			\$0	\$0		Police Details	weeks	\$2,427	8.0	\$19,416
TOTAL LABOR/VEHICLES			\$96,902	\$0	\$11,040	TOTAL MATERIALS/OTHER				\$62,412

PROJECT TOTAL: \$170,354

Note: Transformers for this project are purchased under Project 116

CAPITAL PROJECT SUMMARY

Project Name: Primary Metering Inspection and Upgrade Program

Project #: 110

Project Schedule: On-going

Project Manager: Nick D'Allewa,
General Foreman Grid Assets
& Communications

Reason for Expenditure:

RMLD has initiated an inspection program of all primary metering revenue equipment. It is predicted that many of these installations will need to be replaced due to age and/or condition. Some primary metering customers are expected to be converted to secondary metering during implementation. This project will cover the cost of any necessary upgrades.

Brief Description/Scope:

Equipment will be repaired, upgraded and/or replaced as necessary based on the results of the assessment.

Barriers:

Possible lead time for equipment due to supply chain disruptions.

Change in Scope of Work From Prior Year:

The primary metering review team is working internally and with its primary metering customers to remove existing primary metering equipment and install more conventional metering equipment. These efforts have reduced the scope and spending originally proposed for this project.

Status Update From Prior Year:

Supply chain issues has caused project to be moved out a year.

CAPITAL PROJECT COST SHEET

PROJECT NAME: Primary Metering Upgrade and Replacement Program

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
RMLD Line Crews 2-man crew - unit rate in weeks			\$7,625	\$7,402	\$920					
			\$0	\$0	\$0	Materials and Supplies				\$35,000
			\$0	\$0	\$0					
			\$0	\$0	\$0					
						Carry over from CY 23				\$129,546
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews			\$0	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
Primary metering installation coordination and design	4.2	8.4	\$458	\$889						\$0
			\$0	\$0						\$0
Station Tech: unit rate in hours			\$101	\$99	\$21					
Primary metering construction	52.0		\$5,278	\$0	\$1,092					\$0
Primary metering installation coordination and design		8.0	\$0	\$788	\$168					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
Supervision/Project Management	2.0	9.0	\$246	\$1,074		Police Details	weeks	\$2,427		\$0
TOTAL LABOR/VEHICLES			\$5,982	\$2,752	\$1,260	TOTAL MATERIALS/OTHER				\$164,546

PROJECT TOTAL: \$44,993

CARRY OVER FROM CY 23 \$129,546

CAPITAL PROJECT SUMMARY

Project Name: Substation Equipment Upgrade

Project #: 111

Project Schedule: Annual

Project Manager: Nick D'Alleva,
General Foreman Grid Assets &
Communications

Reason for Expenditure:

This is a proactive, preventive maintenance program for RMLD substations to increase reliability and prevent premature failure of long-lead substation equipment. RMLD personnel have identified substation equipment that needs to be replaced or upgraded as a result of their condition assessment.

Brief Description/Scope:

Due to the lack of availability and long lead times for electrical equipment, a spare 115Kv vacuum breaker has been identified as an asset that needs to be purchased. This beaker can be utilized at Station 3, Station 4 or the proposed new Station 6 in Wilmington. Other miscellaneous equipment includes lightning arresters, bushings, and insulators are utilized at all substations.

Barriers:

Availability of equipment due to supply chain issues.

Change in Scope of Work From Prior Year:

Not applicable.

Status Update From Prior Year:

Waiting for the design specification for new Substation 6 to be able to purchase breaker that will work on new equipment.

CAPITAL PROJECT COST SHEET

PROJECT NAME: Substation Equipment Upgrades

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
RMLD Line Crews 2-man crew - unit rate in weeks			\$7,625	\$7,402	\$920					
			\$0	\$0	\$0	Transformer Bushings	each	\$10,000.00	2	\$20,000
						Transformer Breathers	each	\$4,000.00	2	\$8,000
			\$0	\$0	\$0	Lightning Arrestors	each	\$600.00	6	\$3,600
			\$0	\$0	\$0	Spare 115Kv Vacuum Breaker (Carry Over CY23)	each	\$150,000.00	1	\$150,000
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews			\$0	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
			\$0	\$0						\$0
			\$0	\$0						\$0
Station Tech: unit rate in hours			\$101	\$99	\$21					
Lightning Arrestor Install	20.0		\$2,030	\$0	\$420					\$0
Transformer Bushing Install	80.0		\$8,120	\$0	\$1,680					
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
Supervision/Project Management			\$0	\$0		Police Details	weeks	\$2,427		\$0
TOTAL LABOR/VEHICLES			\$2,030	\$0	\$420	TOTAL MATERIALS/OTHER				\$181,600

PROJECT TOTAL: \$43,850

CARRY OVER CY 23: \$150,000

CAPITAL PROJECT SUMMARY

Project Name: AMI Mesh Network Expansion and
Meter Replacement

Project #: 112

Project Schedule: 2022-2027 **Project Managers:** Nick D'Alleva, General Foreman
Grid Assets & Communications

Reason for Expenditure:

The RMLD has ~28,600 Itron non-AMI/AMR meters that are not capable of providing end-of-line voltage. End-of-line voltage readings would provide the ability to monitor voltage, current, demand, power factor and power quality for these locations. Of these ~28,600 non-full AMI meters, there are 3,200 commercial, industrial, and time-of-use meters that cannot produce last gasp signals and communicate with the Outage Management System (OMS). Therefore, customers with these meters are not able to receive outage and restoration notifications.

Brief Description/Scope:

The RMLD hired a consultant who performed a system-wide evaluation of the current AMI/AMR mesh network and metering system and made recommendations for AMI system upgrades to accommodate current deficiencies as outlined above and to address future metering and data needs. The consultant also recommended RMLD purchase and install Meter Data Management (MDM) for housing metering data and data analytics. Katama Technologies, Inc., was then hired to prepare RFPs for both AMI and MDM systems based on the consultant's recommendations. In 2022, RMLD hired PSE (Power System Engineering) to review the RFPs and manage the project from procurement through full implementation. MDM procurement, which is part of the Grid Automation, Modernization and Optimization (Project 103) will take place 2023, followed by the AMI procurement starting in 2024. Once an AMI vendor is selected and materials have been procured, the headend and communication infrastructure installation will commence followed by the full deployment of meters in years 2024 through 2027. An outside contractor will be hired to remove the old meters and install the new meters.

The new AMI/MDM systems will be integrated with OMS/SCADA, Cogsdale-Harris CIS, and billing systems. Metering data obtained from this new system will be used by the Integrated Resources Division for data analytics, load forecasting, demand side management, and demand response programs.

Barriers:

Supply chain disruptions concerns.

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

Implementation has been moved to 2024.

Status Update from Prior Year:

Due to supply chain issues, the project is being pushed out a year.

CAPITAL PROJECT COST SHEET

PROJECT NAME: AMI Mesh Network Expansion and Meter Replacement

SCHEDULE: CY2023 - 2027

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
RMLD Line Crews 2-man crew - unit rate in weeks			\$7,625	\$7,402	\$920					
			\$0	\$0	\$0	Headend				\$108,500
						Infrastructure				\$245,000
						Meters				\$6,381,173
						Installation				\$1,001,279
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews			\$0	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
			\$0	\$0						\$0
			\$0	\$0						\$0
Station Tech: unit rate in hours			\$101	\$99	\$21					
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
				\$0						
TOTAL LABOR/VEHICLES			\$0	\$0	\$0	Police Details	weeks	\$2,427		\$0
			TOTAL MATERIALS/OTHER							\$7,735,952

PROJECT TOTAL: \$7,735,952

2024 ESTIMATED SPENDING	\$1,290,200
2025 ESTIMATED SPENDING	\$2,509,163
2026 ESTIMATED SPENDING	\$2,457,798
2027 ESTIMATED SPENDING	\$2,531,067

CAPITAL PROJECT SUMMARY

Project Name: Power/Lab and Tool Equipment

Project #: 115

Project Schedule: Annual

Project Manager: n/a

Reason for Expenditure:

This annual project is for the purchase of test equipment and tools. These purchases include the replacement or upgrade of existing equipment and new tools and equipment that assist line workers and technicians in performing their jobs safer and more efficiently.

Brief Description/Scope:

The Line Operations group is looking to convert truck tools from DeWalt to Milwaukee brand equipment.

Barriers:

None anticipated at this time.

Change in Scope of Work From Prior Year:

Not applicable.

Status Update:

Due to supply chain issues Grid Asset and Communications group plans to purchase a DC high-potential tester that will be utilized to test new and existing underground primary cables.

CAPITAL PROJECT COST SHEET

PROJECT NAME: Power/Lab and Tool Equipment

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
RMLD Line Crews 2-man crew - unit rate in weeks			\$7,625	\$7,402	\$920					
			\$0	\$0	\$0	Convert Tools on Line Trucks	1			\$30,000
			\$0	\$0	\$0					
			\$0	\$0	\$0					
			\$0	\$0	\$0	DC High-Potential Tester (Carry Over CY23)	1	\$80,000.00	1	\$80,000
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews			\$0	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
			\$0	\$0						\$0
			\$0	\$0						\$0
Station Tech: unit rate in hours			\$101	\$99	\$21					
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
Supervision/Project Management			\$0	\$0		Police Details	weeks	\$2,427		\$0
TOTAL LABOR/VEHICLES			\$0	\$0	\$0	TOTAL MATERIALS/OTHER				\$110,000

PROJECT TOTAL: \$30,000

CARRY OVER CY 23: \$80,000

CAPITAL PROJECT SUMMARY

Project Name: Transformers and Capacitors Purchase (Stock and Projects) **Project #:** 116

Project Schedule: Annual **Project Manager:** Vaughan Bryan,
Senior Distribution Engineer

Reason for Expenditure:

All transformers and capacitors for planned and ad hoc projects are purchased under this project.

Brief Description/Scope:

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

These transformers and capacitors will be used for new construction, as well as reliability projects including Secondary and Main Replacement, 13.8kV Upgrade (Step-down Areas), Underground Facilities Upgrades, and Aged/Overloaded Transformer Replacement.

Barriers:

Supply chain issues have impacted both pricing and delivery time for most transformers.

Change in Scope of Work From Prior Year:

In 2024 additional transformers will be purchased in response to supply chain issues and to meet RMLD new minimum stock requirements.

Status Update:

Not applicable.

CAPITAL PROJECT COST SHEET

PROJECT NAME: Transformers and Capacitors Purchase
(Stock and Projects)

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
RMLD Line Crews 2-man crew - unit rate in weeks			\$7,625	\$7,402	\$920					
			\$0	\$0	\$0	Three-phase pad-mount transformers for proposed commercial services and stock	average per transformer	\$60,000	5	\$300,000
			\$0	\$0	\$0	Single-phase pad-mount transformers for proposed subdivisions and stock.	average per transformer	\$20,000	40	\$800,000
			\$0	\$0	\$0	Three-phase pole-mount transformers for proposed commercial services and stock	average per transformer	\$20,000	2	\$40,000
			\$0	\$0	\$0	Single-phase pole-mount transformers for proposed residential services and stock	average per transformer	\$10,000	86	\$860,000
						1,200 kVar capacitor bank	each	\$15,000	1	\$15,000
			\$0	\$0	\$0	Carry Over from 2023 and 2022 - Supply Chain Delays				\$4,341,334
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews			\$0	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
			\$0	\$0						\$0
			\$0	\$0						\$0
Station Tech: unit rate in hours			\$101	\$99	\$21					
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
Supervision/Project Management			\$0	\$0		Police Details	weeks	\$2,427		\$0
TOTAL LABOR/VEHICLES			\$0	\$0	\$0	TOTAL MATERIALS/OTHER				\$6,356,334

PROJECT TOTAL: \$2,015,000

CARRY OVER FROM CY 23 & 22 \$4,341,334

CAPITAL PROJECT SUMMARY

Project Name: Meters and Primary Meters (for Stock) **Project #:** 117

Project Schedule: Annual **Project Manager:** Nick D'Alleva,
General Foreman Grid Assets
& Communications

Reason for Expenditure:

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

Brief Description/Scope:

Meter and Primary Meter bids will be prepared, and units purchased as outlined on the Cost Sheet.

Barriers:

None anticipated at this time.

Change in Scope of Work From Prior Year:

Not applicable.

Status Update:

Not applicable.

CAPITAL PROJECT COST SHEET

PROJECT NAME: Meters and Primary Meters (for stock)

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
RMLD Line Crews 2-man crew - unit rate in weeks			\$7,625	\$7,402	\$920					
			\$0	\$0	\$0	Residential meters for stock (with disconnect option as available)	each	\$350.00	140	\$49,000
			\$0	\$0	\$0	Secondary current transformers	each	\$350.00	32.0	\$11,200
			\$0	\$0	\$0	CT Rated Meter Sockets	each	\$450.00	20	\$9,000
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews			\$0	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
			\$0	\$0						\$0
			\$0	\$0						\$0
Station Tech: unit rate in hours			\$101	\$99	\$21					
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
Supervision/Project Management			\$0	\$0		Police Details	weeks	\$2,427		\$0
TOTAL LABOR/VEHICLES			\$0	\$0	\$0	TOTAL MATERIALS/OTHER				\$69,200

PROJECT TOTAL: \$69,200

CAPITAL PROJECT SUMMARY

Project Name: Station 4 CCVT Replacement

Project #: 133

Project Schedule: 2022-2024

**Project
Manager:**

Nick D'Alleva, General
Foreman, Grid Assets &
Communications

Reason for Expenditure:

This project is to replace the existing Coupled - Capacitive Voltage Transformers (CCVT's) at Substation 4 in Reading. The existing CCVT's are more than 40 years old and need replacement.

Brief Description/Scope:

Purchase direct replacement CCVT's that will be installed on the existing structures at the Bulk Electric Supply (BES) - Station 4. The replacements consist of the two sets of three CCVT's on each supply line and seven individual CCVT's on each of 115Kv bus sections.

Barriers

The replacement of the supply line CCVT's is contingent upon the relay upgrade work proposed by National Grid and Eversource.

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

Not applicable.

Status Update From Prior Year:

The CCVT's to be install in 2024.

CAPITAL PROJECT COST SHEET

PROJECT NAME: Station 4 CCVT Replacement

SCHEDULE: CY2022 - CY2023

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
			\$7,403	\$7,187	\$920					
CCTV Installation			\$0	\$0	\$0					
			\$0	\$0	\$0	Carry over from CY 2023				\$130,735
Overhead Contractor 2-man crew - unit rate in weeks			\$8,000	N/A	\$2,080					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$7,691	N/A	\$440					
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$112	\$108						
Supervision of Line crews			\$0	\$0						\$0
Engineering: unit rate in hours			\$105	\$102						
			\$0	\$0						\$0
			\$0	\$0						\$0
Station Tech: unit rate in hours			\$99	\$96	\$21					
Installation of equipment			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$69	\$67	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$118	\$115						
Supervision/Project Management			\$0	\$0		Police Details	weeks	\$2,427		\$0
TOTAL LABOR/VEHICLES			\$0	\$0	\$0	TOTAL MATERIALS/OTHER				\$130,735

CARRY OVER FROM CY 23 \$130,735

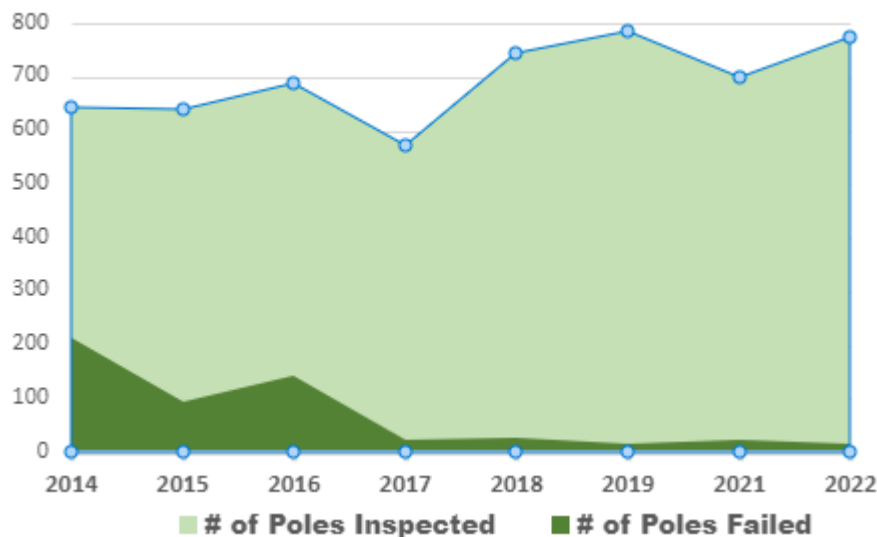
CAPITAL PROJECT SUMMARY

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

Project Schedule: Annual **Project Manager:** Matthew Bernard,
General Foreman Operations

Reason for Expenditure:

In 2014 RMLD initiated a Pole Inspection Program, which provides RMLD with verifiable data on pole condition. Ten percent of RMLD-owned poles (in Reading and North Reading) are inspected annually (in the fall) by an outside contractor using various technologies. Testing (through 2022) has identified 558 poles that were recommended for replacement. The chart below shows the steady decline in the number of poles identified as “failed”.



Note: Testing was not performed in 2020.

Brief Description/Scope:

RMLD will replace poles that are identified as part of the Pole Inspection Program. In 2024 100 poles are budgeted to be replaced. This includes setting poles, transfers, and replacing secondary services as needed.

Barriers:

None anticipated at this time.

Change in Scope of Work From Prior Year:

Not applicable.

Status Update:

Since the inception of the Pole Inspection Program RMLD's failure rate has gone from 33% (in 2014) down to only 2% in 2022.

CAPITAL PROJECT COST SHEET

PROJECT NAME: Pole Replacement Program (R, NR)

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
RMLD Line Crews 2-man crew - unit rate in weeks			\$7,625	\$7,402	\$920					
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
Set and transfer 100 poles.	40.0		\$352,000		\$91,520	Poles	each	\$400.00	100.0	\$40,000
			\$0		\$0	Miscellaneous hardware	per pole	\$90.00	100.0	\$9,000
Service upgrades as necessary	2.0		\$17,600		\$4,576	Connectors and wires (for service upgrades)	per service	\$213.00	100.0	\$21,300
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews	400.0		\$46,465	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
Prepare PoleForemans and Digsafes	80.0		\$8,721	\$0						\$0
Station Tech: unit rate in hours			\$101	\$99	\$21					
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
Supervision/Project Management			\$0	\$0		Police Details	weeks	\$2,427	20.0	\$48,540
TOTAL LABOR/VEHICLES			\$424,786	\$0	\$96,096	TOTAL MATERIALS/OTHER				\$118,840

PROJECT TOTAL: \$639,722

CAPITAL PROJECT SUMMARY

Project Name: Force Account (MassDOT): Route 38
Bridge over MBTA, Wilmington

Project #: 201

Project Schedule: 2024

Project Manager: Peter Price,
System Engineer

Reason for Expenditure:

The Massachusetts Department of Transportation to install bridge. This is a reimbursable force account project.

Brief Description/Scope:

Verizon to set nine (9) permanent poles and two (2) temporary poles, RMLD to transfer construction to new poles and make provisions to be able to de-energize the primary cables along the bridge during bridge installation. Once bridge is in place, Verizon to set two (2) permanent poles and the RMLD to transfer construction from the temporary poles to the permanent poles.

Barriers:

RMLD work is dependent upon MassDOT scheduling for this project.

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

Not applicable.

Status Update From Prior Year:

Not applicable.

CAPITAL PROJECT COST SHEET

Force Account: Mass DOT
PROJECT NAME: Route 38 Bridge over MBTA, Wilmington

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
					\$75					
Line Construction	160.0	10.0	\$71,419		\$39,600	Poles, anchors, guys, insulators, crossarms, brackets, spacer cable, misc hardware and connectors	1			\$16,367
					\$0	Temporary Pole 52 Main St (Twice)	1	\$100.00	32 (x2)	\$6,400
					\$0	Temporary Pole 53 Main St (Twice)	1	\$100.00	24 (x2)	\$4,800
						Materials Storage	1	\$1,120.00		\$1,120
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
			\$0	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
Engineering:	80.0	16.0	\$7,353							\$0
										\$0
Station Tech: unit rate in hours			\$101	\$99	\$21					
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
			\$0	\$0		Police Details	weeks	\$2,427	7.8	\$19,008
TOTAL LABOR/VEHICLES			\$78,772		\$39,600	TOTAL MATERIALS/OTHER				\$47,695

PROJECT TOTAL: \$166,067

CAPITAL PROJECT SUMMARY

Project Name: Force Account: Mass DOT
Lowell at Woburn Street, Wilmington

Project #: 202

Project Schedule: 2024

Project Manager: Peter Price,
System Engineer

Reason for Expenditure:

The Massachusetts Department of Transportation is widening and re-aligning the roads and intersection of Lowell and Woburn Streets in Wilmington. This is a reimbursable force account project.

Brief Description/Scope:

RMLD will relocate/replace 17 poles along Lowell Street and transfer construction. There are three (3) primary spacer cable circuits, two (2) aerial cable circuits, secondary cable, services, and streetlights. The aerial cables will require additional work to switch out and ground to accommodate the additional aerial cable that will need to be installed to get the cables over to the new poles.

Verizon will relocate/replace eight (8) poles on Woburn Street. Because of the distance of the relocations on Woburn Street, the RMLD will install new primary cable, secondary cable, and services on these poles. Streetlights will be transferred to the new poles.

Barriers:

RMLD work is dependent upon MassDOT scheduling for this project.

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

Not applicable.

Status Update From Prior Year:

This will be completed in 2024.

CAPITAL PROJECT COST SHEET

Force Account: Mass DOT
PROJECT NAME: Lowell at Woburn Street, Wilmington

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
			\$7,403	\$7,187	\$920					
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0	Carry Over from CY 23				\$307,000
Overhead Contractor 2-man crew - unit rate in weeks			\$8,000	N/A	\$2,080					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$7,691	N/A	\$440					
Splice, piece out, reterminate aerial 4W7 and 4W23 aerial cables			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$112	\$108						
Supervision of Line crews			\$0	\$0						\$0
Engineering: unit rate in hours			\$105	\$102						
Pole loading analysis, construction plans, design, switching etc			\$0	\$0						\$0
			\$0	\$0						\$0
Station Tech: unit rate in hours			\$99	\$96	\$21					
Rotation for outages			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$69	\$67	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$118	\$115						
Supervision/Project Management			\$0	\$0		Police Details	weeks	\$2,427		\$0
TOTAL LABOR/VEHICLES			\$0	\$0	\$0	TOTAL MATERIALS/OTHER				\$307,000

PROJECT TOTAL: \$307,000

CAPITAL PROJECT SUMMARY

Project Name: Force Account (MassDOT): Butters Row over MBTA, Wilmington **Project #:** 206

Project Schedule: 2024

Project Manager: Peter Price,
System Engineer

Reason for Expenditure:

The Massachusetts Department of Transportation will replace Butters Row bridge and re-align the Cross Street/Butters Row/Main Street intersection. This is a reimbursable force account project.

Brief Description/Scope:

Verizon to set four (4) temporary poles. RMLD to build temp primary feed along temporary poles to 613 Main Street and remove construction over bridge. Once bridge is in place, Verizon to set ten (10) permanent poles, RMLD to set one (1) permanent pole & push-brace at pole 73 Main St., RMLD install new primary & secondary cables over the bridge and in the Main & Cross Street intersection. RMLD to re-install switch at P.29 Butters Row, transfer the permanent feed to 613 Main Street back to new pole line and remove construction from temp poles.

Barriers:

RMLD work is dependent upon MassDOT scheduling for this project.

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

Not applicable.

Status Update From Prior Year:

Not applicable.

CAPITAL PROJECT COST SHEET

Force Account: Mass DOT
PROJECT NAME: Butters Row over MBTA, Wilmington

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
			\$7,625	\$7,402	\$75					
Line Construction	296.0	32.0	\$131,305		\$73,800	Removal of OH wires P.26 to P.28 Butters	1	\$100.00	16	\$1,600
						Install of primary on new poles 26 to 28	1	\$100.00	24.0	\$2,400
						install of sec. cable & street light poles 26 to 28	1	\$100.00	24	\$2,400
						Poles, anchors, guys, insulators, crossarms, brackets, spacer cable, misc hardware and connectors				\$41,207
						Materials Storage				\$640
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
			\$0	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
Pole loading analysis, construction plans, design, switching etc	80.0	40.0	\$9,898							\$0
			\$0	\$0						\$0
Station Tech: unit rate in hours			\$101	\$99	\$21					
Rotation for outages			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
Supervision/Project Management			\$0	\$0		Police Details	weeks	\$2,427	14.7	\$35,640
TOTAL LABOR/VEHICLES			\$141,203	\$0	\$73,800	TOTAL MATERIALS/OTHER				\$83,887

PROJECT TOTAL: \$298,890

CAPITAL PROJECT SUMMARY

Project Name: Johnson Woods – Create Loop **Project #:** 315
Project Schedule: CY2024 **Project Manager:** Brian Smith, System Engineer

Reason for Expenditure: The existing subdivision currently only has one feed. The second feed that was planned is not feasible due to easement issues. This would look at another option to bring in a second feed.

Brief Description/Scope: 3 Phase OH line extension, including upgrading poles, on Enos Circle, Reading. Excavate and installation of conduit and Manhole to tie into Johnson Woods. Installation of 4/0UG cable in new ductbank.

Barriers: Easements, permission from town.

Change in Scope of Work From Prior Year: Increase (Decrease)
New Project

Status Update From Prior Year:
Not applicable.

CAPITAL PROJECT COST SHEET

PROJECT NAME: Johnson Woods Loop

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
			\$7,625	\$7,402	\$920					
OH Crew - RP pole, install 3 phase extension	8.0		\$60,999	\$0	\$7,360	8 - 45-1 poles, pole foam, hardware	each	\$1,000.00	8	\$8,000
			\$0	\$0	\$0	336AL Primary	foot	\$3.00	2700.0	\$8,100
			\$0	\$0	\$0	Messenger	foot	\$2.00	900.0	\$1,800
UG Crew - Install UG Primary	1.5		\$11,437	\$0	\$1,380	4/0 UG Primary	foot	\$12.00	900.0	\$10,800
			\$0	\$0	\$0	#2 CU ground	foot	\$2.50	300	\$750
			\$0	\$0	\$0	Survey for easements	each	\$4,500.00	1.0	\$4,500
			\$0	\$0	\$0	Excavation contractor for MH's, Ductbank and paving	each	\$110,000.00	1	\$110,000
			\$0	\$0	\$0	1 Manhole/fram/cover	each	\$3,500.00	1.0	\$3,500
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
UG Crew - Install UG Primary	1.5		\$16,320		\$2,100					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews	8.0		\$929	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
Design/Easements/supervision	80.0		\$8,721	\$0						\$0
			\$0	\$0		Misc materials				\$0
Station Tech: unit rate in hours			\$101	\$99	\$21					
testing	4.0		\$406	\$0	\$84					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
Supervision/Project Management	4.0		\$492	\$0		Police Details	weeks	\$2,427		\$0
TOTAL LABOR/VEHICLES			\$99,304	\$0	\$10,924	TOTAL MATERIALS/OTHER				\$147,450

PROJECT TOTAL: \$257,678

CAPITAL PROJECT SUMMARY

Project Name: Overhead Upgrade Program
(Primary, Secondary and Main
Replacement) - All Towns

Project #: 458

Project Schedule: Annual

Project Manager: 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. Pole replacements, primary cable replacement and transformer upgrades will be done in conjunction with the Stepdown Area Conversions. The Faulkner Avenue area in Wilmington, the Edwards Avenue area in Lynnfield, the Whitehall Lane area in Reading and the Orchard Drive area in North Reading will be targeted for upgrade in 2024 in conjunction with the 13.8kV Upgrade (Step-down Areas) – Project 107. These projects were intended for CY23 but due to supply chain issues they will be re-targeted for CY24

Barriers:

Transformer supply chain issues may impact the completion of each area.

Change in Scope of Work from Prior Year:

Not applicable.

Status Update:

Areas/Sections completed in 2023 include:

- Sylvia Rd in North Reading
- Main St/Chester St/Leclair St in North Reading
- Llyod Rd in North Reading
- Libby Ave in Reading

CAPITAL PROJECT COST SHEET

PROJECT NAME: Overhead Upgrades (Primary, Secondary and Main Replacement) Program

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
RMLD Line Crews 2-man crew - unit rate in weeks			\$7,625	\$7,402	\$920					
Frame up to 160 poles	6		\$45,749	\$0	\$5,520	4/0-3/C secondary cable	foot	\$3	5,000	\$15,000
Install 15,000' of secondary cable	8		\$60,999	\$0	\$7,360	Secondary hardware, brackets, connectors, etc.	per pole	\$125	60	\$7,500
Replace services	4		\$30,499	\$0	\$3,680	120' of 1/0 - 3/C service wire for each service	per service	\$175	50	\$8,750
			\$0	\$0	\$0					
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews	40.0		\$4,646	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
Prepare construction documents, PoleForeman, outage set-up, GIS updates	100		\$10,901	\$0						\$0
			\$0	\$0						\$0
Station Tech: unit rate in hours			\$101	\$99	\$21					
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
Supervision/Project Management			\$0	\$0		Police Details	weeks	\$2,427	28.0	\$67,956
TOTAL LABOR/VEHICLES			\$152,795	\$0	\$16,560	TOTAL MATERIALS/OTHER				\$99,206

PROJECT TOTAL: \$268,561

NOTE: Transformers for this project are purchased under Project 116.

CAPITAL PROJECT SUMMARY

Project Name: Aged/Overloaded Transformer Replacement Program

Project #: 668

Project Schedule: Annual

Project Manager: Vaughan Bryan,
Senior Distribution Engineer

Reason for Expenditure:

To expedite the replacement of aged and over-loaded transformers on the system, the RMLD formalized the Aged/Overloaded Transformer Replacement Program as a separate capital project in 2020 with a target of 120-150 aged or overloaded transformers replaced annually. RMLD replaces aged transformers either as part of this program or one of the other reliability programs (i.e., URD Upgrades, Stepdown Upgrades, Secondary and Main Upgrades).

Transformers Replaced 2023 54 Total YTD (through July)

	Pad-mount	Pole-Mount
Single Phase	9	38
Three Phase	4	3
Total	13	41

Brief Description/Scope:

All transformers over 25 years old have been prioritized for replacement based on age, physical condition, and load. Additionally, the transformer load management program will further identify transformers that need replacement. Any transformer replacement that is not part of an area upgrade under one of the reliability programs, will be replaced under this project.

Barriers:

Supply chain issues have had an adverse impact on transformer inventory. Costs have increased dramatically, and delivery times have been delayed. Therefore, RMLD plans to slow this program for the near future and focus on replacing only those transformers that pose imminent danger of failure or leaking.

Change in Scope of Work From Prior Year:

RMLD has reduced the number of aged transformers targeted for replacement under this program to 77 (25 pad mount and 52 pole mount) for 2024. This number will be contingent on receipt of pending transformer orders and current inventory.

Status Update:

Year-to-date (through October) 54 aged transformers have been replaced as part of this program or one of the other reliability projects as noted above.

CAPITAL PROJECT COST SHEET

PROJECT NAME: Aged/Overloaded Transformer Replacement Program

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
RMLD Line Crews 2-man crew - unit rate in weeks			\$7,625	\$7,402	\$920					
Replace three-phase pad-mount transformers system wide.		3.5	\$0	\$25,908	\$3,220	Miscellaneous underground connectors, elbows, hardware and pads.	per transformer	\$1,400.00	26	\$36,400
Replace single-phase pad-mount transformers system side.	3.8		\$28,974	\$0	\$3,496					
Replace three-phase pole-mount transformers system wide.		1.75	\$0	\$12,954	\$1,610	Miscellaneous overhead connectors, poles, and hardware	per transformer	\$1,000.00	60	\$60,000
Replace single-phase pole-mount transformers system wide.	9.6		\$73,389		\$8,855	Carry Over from CY 23				\$343,056
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
Replace single-phase pole-mount transformers system wide.	9.6		\$84,700		\$22,022					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
Replace single-phase pad-mount transformers system side.	3.8		\$41,344		\$5,320					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews	234.0	72.0	\$27,182	\$8,120						\$0
Engineering: unit rate in hours			\$109	\$106						
Prepare construction documents, PoleForeman, 605As, outage setup, outages, GIS updates.	670.3	465.2	\$73,071	\$49,232						\$0
Station Tech: unit rate in hours			\$101	\$99	\$21					
Test UG cable connections; commercial customers being off hours	76.3	103.2	\$7,744	\$10,169	\$3,770					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
Test rotation of commercial application; commercial customers being off hours	159.0	104.0	\$11,368	\$7,218	\$5,523					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
Supervision/Project Management	43.0	48.0	\$5,287	\$5,730		Police Details	weeks	\$2,427	7.6	\$18,445
TOTAL LABOR/VEHICLES			\$353,059	\$119,331	\$53,816	TOTAL MATERIALS/OTHER				\$114,845

PROJECT TOTAL: \$526,206

CARRY OVER CY 23: \$343,056

CAPITAL PROJECT SUMMARY

Project Name: Gazebo Circle, Reading
Underground Feed Relocation

Project #: 742

Project Schedule: 2022-2024

Project Manager: Brian Smith,
System Engineer

Reason for Expenditure:

Improve reliability and access to the feed to Gazebo Circle, which is currently overhead through the woods off Summer Street. Current feed is not accessible by truck and requires an outage to the entire Gazebo Circle complex (approximately 215 customers) to complete any maintenance or trimming.

Brief Description/Scope:

Staff will survey and obtain easement for a new underground feed off Hopkins Street to Gazebo Circle. Crews will then install approximately three manholes and 1,200 feet of four-inch conduit, as well as approximately 750 circuit feet of new underground cable. Crews will then remove overhead feed from the woods off Summer Avenue.

Barriers:

Obtaining easements from the Town and Gazebo Circle condo association.

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

Not applicable.

Status Update From Prior Year:

Project started late in 2023 will be completed in 2024.

CAPITAL PROJECT COST SHEET

PROJECT NAME: Gazebo Circle, Reading - Underground Feed Relocation

SCHEDULE: CY2023-2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
			\$7,625	\$7,402	\$920					
						Carry over from CY 23				\$289,700
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
			\$0	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
			\$0	\$0						\$0
			\$0	\$0						\$0
Station Tech: unit rate in hours			\$101	\$99	\$21					
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
			\$0	\$0		Police Details	weeks	\$2,427		\$0
TOTAL LABOR/VEHICLES			\$0	\$0	\$0	TOTAL MATERIALS/OTHER				\$289,700

CARRY OVER CY 23

\$289,700

CAPITAL PROJECT SUMMARY

Project Name: Maple Meadows

Project #: TBD

Project Schedule: CY24 – CY27

Project Manager: Greg Phipps, General Manager

Reason for Expenditure:

Support RMLD's strategy to build and operate in-territory generation and storage assets. This acquisition will help support RMLD's mission of providing reliable, low-cost, and non-carbon energy while supporting the load and demand growth due to electrification.

Brief Description/Scope:

Thirty-five (35) of the seventy-five (75) acres of the Maple Meadow property will support up to 10 megawatts of solar PV. In addition, this land will support 10-20 MW of battery storage and associated switch gear equipment.

Barriers:

Current obstacles include a clear and marketable title and clarification from Massachusetts Department of Environmental Protection regarding reshaping of mound of COMM-97 soils.

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

Not applicable.

Status Update From Prior Year:

Not applicable.

CAPITAL PROJECT COST SHEET

PROJECT NAME: Maple Meadows

SCHEDULE: CY 2024 - 2027

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
			\$7,625	\$7,402	\$920					
			\$0	\$0	\$0	Land Purchase	Each	\$3,000,000.00	1	\$3,000,000
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews			\$0	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
			\$0	\$0						\$0
			\$0	\$0						\$0
Station Tech: unit rate in hours			\$101	\$99	\$21					
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
Supervision/Project Management			\$0	\$0		Police Details	weeks	\$2,427		\$0
TOTAL LABOR/VEHICLES			\$0	\$0	\$0	TOTAL MATERIALS/OTHER				\$3,000,000

PROJECT TOTAL: \$3,000,000

CAPITAL PROJECT SUMMARY

Project Name: Route 125 Wilmington

Project #: TBD

Project Schedule: CY24 – CY26

Project Manager: Greg Phipps, General Manager

Reason for Expenditure:

Purchase land to provide network and operational support for electrification and local industrial load center.

Brief Description/Scope:

Sixteen (16) acres of the forty-one (41) acres is suitable for new battery storage assets and new in-territory generation assets to enhance system reliability and reduce upward cost pressure. In addition, a portion of the land could be utilized for operations and equipment storage

Barriers:

Permitting and Zoning hurdles

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

Not applicable.

Status Update From Prior Year:

Not applicable.

CAPITAL PROJECT COST SHEET

PROJECT NAME: Route 125 Wilmington (Land)

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
			\$7,625	\$7,402	\$920					
			\$0	\$0	\$0	Land Purchase	Each	\$6,000,000.00	1	\$6,000,000
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews			\$0	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
			\$0	\$0						\$0
			\$0	\$0						\$0
Station Tech: unit rate in hours			\$101	\$99	\$21					
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
AMI Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Grid Assets & Communications Management: unit rate in hours			\$123	\$119						
Supervision/Project Management			\$0	\$0		Police Details	weeks	\$2,427		\$0
TOTAL LABOR/VEHICLES			\$0	\$0	\$0	TOTAL MATERIALS/OTHER				\$6,000,000

PROJECT TOTAL: \$6,000,000

CAPITAL PROJECT SUMMARY

Project Name: Service Connections
(Residential and Commercial) – All Towns

Project #: various

Project Schedule: Annual

Project Manager: Matthew Bernard,
General Foreman Operations

Reason for Expenditure:

Installation of 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 Year:

Not applicable.

Status Update:

Not applicable.

CAPITAL PROJECT COST SHEET

PROJECT NAME: Service Connections
(Residential and Commercial)

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
RMLD Line Crews 2-man crew - unit rate in weeks			\$7,625	\$7,402	\$920					
Install new and upgraded service connections at approximately 350 units.	12.0		\$91,498	\$0	\$11,040	Secondary hardware, brackets, connectors, etc.	per service	\$130.00	350	\$45,500
			\$0	\$0	\$0	120' of 1/0 - 3/C service wire for each service	per service	\$180.00	350	\$63,000
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
			\$0		\$0					\$0
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews			\$0	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
			\$0	\$0						\$0
			\$0	\$0						\$0
Senior Tech: unit rate in hours			\$101	\$99	\$21					
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
Meter Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Technical Services Manager: unit rate in hours			\$123	\$119						
Supervision/Project Management			\$0	\$0		Police Details	weeks	\$2,427		\$0
TOTAL LABOR/VEHICLES			\$91,498	\$0	\$11,040	TOTAL MATERIALS/OTHER				\$108,500

PROJECT TOTAL: \$211,038

CAPITAL PROJECT SUMMARY

Project Name: Routine Construction

Project #: various

Project Schedule: Annual

Project Manager: Various

Reason for Expenditure:

Routine Construction covers unplanned 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 Year:

Not applicable.

Status Update:

Not applicable.

CAPITAL PROJECT COST SHEET

PROJECT NAME: Routine Construction

SCHEDULE: CY2024

ITEM/TASK	LABOR					MATERIALS/OTHER				
	# 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	OT						
RMLD Line Crews 2-man crew - unit rate in weeks			\$7,625	\$7,402	\$920					
Capital Construction	30.0	10.0	\$228,745	\$74,023	\$36,800	Materials as necessary				\$300,000
Street Light Installations	4.0		\$30,499	\$0	\$3,680	Materials as necessary				\$50,000
			\$0	\$0	\$0					\$0
Overhead Contractor 2-man crew - unit rate in weeks			\$8,800	N/A	\$2,288					
Pole Setting/Transfers	30		\$264,000		\$68,640	Materials as necessary				\$95,000
			\$0		\$0					\$0
Underground Contractor 2-man crew - unit rate in weeks			\$10,880	N/A	\$1,400					
Underground Construction	5		\$54,400		\$7,000	Materials as necessary				\$125,000
			\$0		\$0					\$0
			\$0		\$0					\$0
Line Operations Supervision: unit rate in hours			\$116	\$113						
Supervision of Line crews	110.0		\$12,778	\$0						\$0
Engineering: unit rate in hours			\$109	\$106						
Project Management	400.0		\$43,605	\$0						\$0
			\$0	\$0						\$0
Senior Tech: unit rate in hours			\$101	\$99	\$21					
			\$0	\$0	\$0					\$0
			\$0	\$0	\$0					\$0
Meter Tech: unit rate in hours			\$71	\$69	\$21					
			\$0	\$0	\$0					\$0
Technical Services Manager: unit rate in hours			\$123	\$119						
Supervision/Project Management			\$0	\$0		Police Details	weeks	\$2,427	52.0	\$126,204
TOTAL LABOR/VEHICLES			\$634,027	\$74,023	\$116,120	TOTAL MATERIALS/OTHER				\$696,204

PROJECT TOTAL: \$1,520,373

2024 OPERATING BUDGET

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**Reading Municipal Light Department
Six Year Plan
CY23-CY28**

	CY24	CY25	CY26	CY27	CY28	CY29
	BUDGET	BUDGET	BUDGET	BUDGET	BUDGET	BUDGET
FORECASTED kWh SALES	660,173,000	672,056,114	684,825,180	697,836,859	711,095,759	724,606,578
OPERATING REVENUES						
SALES OF ELEC - BASE	\$ 40,385,209	\$ 45,765,057	\$ 47,567,285	\$ 49,925,195	\$ 50,873,774	\$ 51,840,376
SALES OF ELEC - FUEL	33,549,002	35,237,985	35,156,185	35,166,895	37,240,796	38,998,326
SALES OF ELEC - CAPACITY/TRANSMISSION	38,263,627	37,201,723	36,863,041	38,641,923	41,509,504	44,848,075
PURCHASED POWER ADJUSTMENT						
FORFEITED DISCOUNTS	1,211,556	1,372,952	1,427,019	1,497,756	1,526,213	1,555,211
EFFICIENCY ELECTRIFICATION	2,733,116	2,688,224	2,739,301	2,791,347	2,844,383	2,898,426
GAW REVENUE						
NYPA	(1,133,940)	(1,154,350)	(1,176,283)	(1,198,632)	(1,221,406)	(1,244,613)
TOTAL OPERATING REVENUES	115,008,570	121,111,591	122,576,547	126,824,485	132,773,264	138,895,801
	70,678,689	71,285,358	70,842,943	72,610,186	77,528,893	82,601,788
OPERATING EXPENSES						
PURCHASED POWER - FUEL	33,549,002	35,237,985	35,156,185	35,166,895	37,240,796	38,998,326
PURCHASED POWER - CAPACITY	16,100,402	13,974,812	12,091,449	12,184,905	12,732,525	13,499,421
PURCHASED POWER - TRANSMISSION	21,181,651	23,226,911	24,771,592	26,457,018	28,776,979	31,348,654
EFFICIENCY AND ELECTRIFICATION EXPENSE	3,450,478	3,512,587	3,579,326	3,647,333	3,716,632	3,787,248
OPERATING & MAINTENANCE EXPENSE	7,033,708	7,420,561	7,455,730	7,884,347	7,940,352	8,416,540
GENERAL & ADMINISTRATIVE EXPENSE	15,963,082	16,841,051	16,920,867	17,893,617	18,020,723	19,101,436
DEPRECIATION EXPENSE	5,798,925	7,510,866	8,091,516	8,575,326	9,005,166	9,326,106
TOWN PAYMENTS - 2% NET PLANT	2,023,689	2,668,884	2,921,009	3,090,961	3,215,256	3,258,355
TOTAL OPERATING EXPENSES	105,100,935	110,393,658	110,987,673	114,900,401	120,648,429	127,736,086
OPERATING INCOME	9,907,635	10,717,933	11,588,874	11,924,083	12,124,834	11,159,715
NON-OPERATING REVENUES (EXPENSES)						
INTEREST INCOME	300,000	300,000	300,000	300,000	300,000	300,000
OTHER INCOME	850,000	850,000	850,000	850,000	850,000	850,000
VOLUNTARY PAYMENT TO READING	(2,528,587)	(2,571,781)	(2,582,338)	(2,605,362)	(2,654,011)	(2,704,437)
LOSS ON DISPOSAL OF ASSETS	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)
CUSTOMER DEPOSIT INTEREST EXP	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)
TOTAL NON-OPERATING REVENUES (EXPENSES)	(1,398,587)	(1,441,781)	(1,452,338)	(1,475,362)	(1,524,011)	(1,574,437)
NET INCOME	\$ 8,509,048	\$ 9,276,152	\$ 10,136,536	\$ 10,448,721	\$ 10,600,823	\$ 9,585,278
Rate of Return	8.02%	7.88%	8.01%	7.91%	7.93%	7.40%

Town of Reading, Massachusetts
Municipal Light Department
Statement of Budgeted and Actual Revenues and Expenses

	CY22	CY22	CY22	CY23	CY23	CY23	CY24
	BUDGET	ACTUAL	BUDGET/ACTUAL % CHANGE	BUDGET	8 MOS ACTUAL 4 MOS BUDGET	BUDGET/ACTUAL % CHANGE	BUDGET
Operating Revenues							
Base Revenue	\$30,099,569	\$29,967,183	(0.44%)	\$ 32,116,223	\$ 36,613,233	14.00%	\$ 40,385,209
Fuel Revenue	26,522,356	36,961,878	39.36%	41,106,033	31,898,998	(22.40%)	33,549,002
Purchased Power Capacity & Transmission	35,435,495	31,737,380	(10.44%)	34,515,988	33,467,796	(3.04%)	38,263,627
Forfeited Discounts	902,987	811,391	(10.14%)	963,487	896,372	(6.97%)	1,211,556
Energy Conservation Revenue	1,991,651	1,943,029	(2.44%)	2,001,000	2,594,000	29.64%	2,733,116
NYPA Credit	(1,057,302)	(1,203,582)	13.84%	(1,162,000)	(1,237,655)	6.51%	(1,133,940)
Total Operating Revenues	93,894,756	100,217,279	6.73%	109,540,730	104,232,744	(4.85%)	115,008,569
Expenses							
Power Expenses							
555 Purchased Power - Fuel	25,465,054	33,700,655	32.34%	39,944,033	29,185,331	(26.93%)	33,549,002
555 Purchased Power - Capacity	16,978,311	14,489,338	(14.66%)	15,469,599	15,403,562	(0.43%)	16,100,402
565 Purchased Power - Transmission	18,457,184	16,416,626	(11.06%)	19,226,389	15,392,768	(19.94%)	21,181,651
Total Purchased Power	60,900,549	64,606,619	6.09%	74,640,021	59,981,660	(19.64%)	70,831,054
Operating and Maintenance Expenses							
580 Supervision and Engineering	1,153,589	1,176,831	2.01%	978,439	1,264,438	29.23%	945,126
581 Station/Control Room Operators	538,942	549,799	2.01%	508,095	615,049	21.05%	526,168
582 Station Technicians	674,564	427,181	(36.67%)	1,337,458	396,030	(70.39%)	1,310,897
583 Line General Labor	1,124,845	788,574	(29.89%)	598,755	927,409	54.89%	819,809
585 Street Lighting	1,000	487	-	2,000	326,717	-	-
586 Meter General	197,788	222,841	12.67%	270,245	213,475	(21.01%)	267,117
588 Materials Management	471,160	447,341	(5.06%)	588,589	485,295	(17.51%)	611,890
593 Maintenance of Lines - Overhead	551,225	433,823	(21.30%)	568,743	423,287	(25.58%)	732,300
593 Maintenance of Lines - Tree Trimming	907,776	1,008,002	11.04%	1,589,788	1,039,126	(34.64%)	829,901
594 Maintenance of Lines - Underground	88,139	259,023	193.88%	194,974	200,778	2.98%	185,192
595 Maintenance of Lines - Transformers	373,160	231,738	(37.90%)	355,040	210,193	(40.80%)	351,742
598 Line General Leave Time Labor	477,783	607,893	27.23%	215,963	655,912	203.71%	453,565
Total Operating and Maintenance Expenses	6,559,972	6,153,534	(6.20%)	7,208,088	6,757,709	(6.25%)	7,033,708
General & Administrative Expenses							
903 Customer Collection	1,176,246	1,177,530	0.11%	1,299,608	1,314,102	1.12%	1,466,599
904 Uncollectible Accounts	105,000	10,233	(90.25%)	75,000	25,000	(66.67%)	75,000
916 Integrated Resources	987,280	801,042	(18.86%)	1,071,429	740,435	(30.89%)	996,716
916 Efficiency and Electrification Expense	2,441,101	1,647,863	(32.50%)	3,064,243	2,005,168	(34.56%)	3,450,478
920 Administrative and General Salaries	2,373,838	2,065,363	(12.99%)	3,224,132	2,195,568	(31.90%)	3,416,126
921 Office Supplies	20,000	16,830	(15.85%)	20,000	20,782	3.91%	20,000
923 Outside Services - Legal	455,918	538,038	18.01%	785,800	524,021	(33.31%)	600,800
923 Outside Services - Contract	735,700	549,564	(25.30%)	740,100	543,487	(26.57%)	642,400
923 Outside Services - Education	329,826	75,291	(77.17%)	329,150	141,193	(57.10%)	338,450
924 Property Insurance	556,500	414,521	(25.51%)	541,550	447,255	(17.41%)	595,705
925 Injuries and Damages	25,600	21,157	(17.36%)	25,600	97,136	279.44%	25,600
926 Employee Pensions and Benefits	3,821,325	1,750,922	(54.18%)	4,568,626	2,034,296	(55.47%)	5,116,479
930 Miscellaneous General Expense	580,127	530,756	(8.51%)	601,400	466,451	(22.44%)	555,522
931 Rent Expense	212,000	212,555	0.26%	212,000	211,036	(0.45%)	233,200
933 Vehicle Expense	379,000	310,298	(18.13%)	389,000	339,974	(12.60%)	389,000
933 Vehicle Expense - Capital	(276,428)	(365,504)	32.22%	(510,268)	(364,762)	(28.52%)	(510,268)
935 Maintenance of General Plant - Technology	713,120	566,879	(20.51%)	668,767	686,925	2.72%	700,000
935 Maintenance of Building & Garage	929,718	1,002,949	7.88%	991,558	870,460	(12.21%)	1,301,753
Total General & Administrative Expenses	15,565,872	11,326,286	(27.24%)	18,097,695	12,298,527	(32.04%)	19,413,560
Other Operating Expenses							
403 Depreciation	5,108,876	5,056,984	(1.02%)	5,445,000	5,140,404	(5.59%)	5,798,925
408 Voluntary Payments to Towns	1,707,839	1,720,644	0.75%	1,772,440	1,773,631	0.07%	2,023,689
Total Other Expenses	6,816,715	6,777,628	(0.57%)	7,217,440	6,914,034	(4.20%)	7,822,614
Operating Income	4,051,648	11,353,212	180.21%	2,377,487	18,280,813	668.91%	9,907,634
Non-operating Revenues (Expenses)							
415 Contributions in Aid of Construction	50,000	50,000	0.00%	50,000	-	0.00%	50,000
419 Interest Income	300,000	300,000	0.00%	300,000	-	(100.00%)	300,000
419 Other Income	710,000	710,000	0.00%	710,000	-	(100.00%)	710,000
421 Intergovernmental Grants	90,000	90,000	0.00%	90,000	-	0.00%	90,000
426 Return on Investment Payment to Reading	(2,528,587)	(2,503,974)	(0.97%)	(2,548,972)	(2,503,974)	(1.77%)	(2,528,587)
426 Loss on Disposal	(100,000)	(50,596)	(49.40%)	(10,000)	(50,596)	405.96%	(10,000)
431 Interest Expense	(40,000)	(1,727)	(95.68%)	(10,000)	(1,727)	(82.73%)	(10,000)
Total Non-operating Revenues (Expenses)	(1,518,587)	(1,406,297)	(7.39%)	(1,418,972)	(2,556,297)	80.15%	(1,398,587)
Net Income	\$ 2,533,061	\$ 9,946,916	292.68%	\$ 958,515	\$ 15,724,516	1540.51%	\$ 8,509,047

Town of Reading, Massachusetts
Municipal Light Department
Statement of Budgeted Revenues and Expenses

	CY24 BUDGET	CY23 BUDGET	Change in Budget %
Operating Revenues			
Base Revenue	\$ 40,385,209	\$ 32,116,223	25.75%
Fuel Revenue	33,549,002	41,106,033	(18.38%)
Purchased Power Capacity/Transmission	38,263,627	34,515,988	10.86%
Forfeited Discounts	1,211,556	963,487	25.75%
Energy Conservation Revenue	2,733,116	2,001,000	36.59%
NYPA	(1,133,940)	(1,162,000)	(2.41%)
Total Operating Revenues	115,008,570	109,540,730	4.99%
Expenses			
Power Expenses			
555 Purchased Power - Fuel	33,549,002	39,944,033	(16.01%)
555 Purchased Power - Capacity	16,100,402	15,469,599	4.08%
565 Purchased Power - Transmission	21,181,651	19,226,389	10.17%
Total Purchased Power	70,831,054	74,640,021	(5.10%)
Operating and Maintenance Expenses			
580 Supervision and Engineering	945,126	978,439	(3.40%)
581 Station/Control Room Operators	526,168	508,095	3.56%
582 Station Tech	1,310,897	1,337,458	(1.99%)
583 Line General Labor	813,453	598,755	35.86%
585 Street Lighting	6,355	2,000	217.77%
586 Meter General	267,117	270,245	(1.16%)
588 Materials Management	611,890	588,589	3.96%
593 Maintenance of Lines - Overhead	732,300	568,743	28.76%
593 Maintenance of Lines - Tree Trimming	829,901	1,589,788	(47.80%)
594 Maintenance of Lines - Underground	185,192	194,974	(5.02%)
595 Maintenance of Lines - Transformers	351,742	355,040	(0.93%)
598 Line General Leave Time Labor	453,565	215,963	110.02%
Total Operating and Maintenance Expenses	7,033,708	7,208,088	(2.42%)
General & Administrative Expenses			
903 Customer Collection	1,466,599	1,299,608	12.85%
904 Uncollectible Accounts	75,000	75,000	0.00%
916 Integrated Resources	996,716	1,071,429	(6.97%)
916 Efficiency and Electrification Expense	3,450,478	3,064,243	12.60%
920 Administrative and General Salaries	3,416,126	3,224,132	5.95%
921 Office Supplies	20,000	20,000	0.00%
923 Outside Services-Legal	600,800	785,800	(23.54%)
923 Outside Services-Contract	642,400	740,100	(13.20%)
923 Outside Services-Education	338,450	329,150	2.83%
924 Property Insurance	595,705	541,550	10.00%
925 Injuries and Damages	25,600	25,600	0.00%
926 Employee Pensions and Benefits	5,116,479	4,568,626	11.99%
930 Miscellaneous General Expense	555,522	601,400	(7.63%)
931 Rent Expense	233,200	212,000	10.00%
933 Vehicle Expense	389,000	389,000	0.00%
933 Vehicle Expense - Capital	(510,268)	(510,268)	0.00%
935 Maintenance of General Plant - Technology	700,000	668,767	4.67%
935 Maintenance of Building & Garage	1,301,753	991,558	0.00%
Total General & Administrative Expenses	19,413,560	18,097,695	7.27%
Other Operating Expenses			
403 Depreciation	5,798,925	5,445,000	6.50%
408 Voluntary Payments to Towns	2,023,689	1,772,440	14.18%
Total Other Expenses	7,822,614	7,217,440	8.38%
Operating Income	9,907,635	2,377,487	316.73%
Non-operating Revenues (Expenses)			
415 Contributions in Aid of Construction	50,000	50,000	0.00%
419 Interest Income	300,000	300,000	0.00%
419 Other Income	710,000	710,000	0.00%
421 Intergovernmental Grants	90,000	90,000	0.00%
426 Return on Investment Payment to Reading	(2,528,587)	(2,548,972)	(0.80%)
426 Loss on Disposal	(10,000)	(10,000)	0.00%
431 Interest Expense	(10,000)	(10,000)	0.00%
Total Non-operating Revenues (Expenses)	(1,398,587)	(1,418,972)	(1.44%)
Net Income	\$ 8,509,048	\$ 958,515	787.73%

**Reading Municipal Light Department
Operating Budget Supplemental Information
Budgeted and Actual Fixed and Semi-Variable Costs**

	CY22	CY22	CY23	CY23	CY24	CY24	
	BUDGET	ACTUAL	BUDGET	8 MOS ACTUAL 4 MOS BUDGET	BUDGET	% OF BUDGET	
FIXED COSTS							
Purchased Power - Fuel	\$ 25,465,054	\$ 33,700,655	\$ 39,944,033	\$ 29,185,331	\$ 33,549,002		31.2%
Purchased Power - Capacity	\$ 16,978,311	\$ 14,489,338	\$ 15,289,599	\$ 15,403,562	\$ 16,100,402	65.8%	15.0%
Purchased Power - Transmission	\$ 18,457,184	\$ 16,416,626	\$ 19,406,389	\$ 15,392,768	\$ 21,181,651		19.7%
Depreciation Expense	\$ 5,108,876	\$ 5,056,984	\$ 5,445,000	\$ 5,140,404	\$ 5,798,925		5.4%
Return on Investment Payment to Reading	\$ 2,528,587	\$ 2,503,974	\$ 2,548,972	\$ 2,527,442	\$ 2,528,587		2.3%
Town Payments - 2% of Net Plant	\$ 1,707,839	\$ 1,720,644	\$ 1,772,440	\$ 1,773,631	\$ 2,023,689		1.9%
Loss on Disposal of Assets	\$ 100,000	\$ -	\$ 10,000		\$ 10,000		0.0%
TOTAL FIXED COSTS	70,345,851	73,888,221	84,416,433	69,423,137	81,192,255		75.4%
SEMI-VARIABLE COSTS							
Labor Expense	9,405,351	-	10,928,640	-	11,831,926	8.50%	11.0%
Labor - Capital	(1,483,143)	6,896,433	(2,692,323)	7,573,055	(2,692,323)		-2.5%
Overtime Expense	1,036,780	-	1,063,560	-	1,226,560	0.90%	1.1%
Overtime - Capital	(184,731)	1,021,578	(263,974)	(472,804)	(263,974)		-0.2%
Employee Benefits/Pension	4,782,020	1,730,569	5,649,100	7,774	6,305,000	4.80%	5.9%
Employee Benefits/Pension - Capital	(960,695)	-	(1,080,474)	-	(1,188,521)		-1.1%
Other Operating and Maintenance Expense	2,575,148	2,630,137	3,400,525	1,990,877	3,468,334		3.2%
Efficiency and Electrification Expense	2,441,101	1,647,863	3,064,243	2,005,168	3,450,478		3.2%
Tree Trimming Services	907,776	1,008,002	1,589,788	1,039,126	829,901		0.8%
Contract/Consulting Services	735,700	549,564	740,100	543,487	642,400		0.6%
Software/Hardware Maintenance	713,120	566,879	668,767	686,925	700,000		0.7%
Property Insurance	556,500	414,521	541,550	447,255	595,705		0.6%
Legal Expense	455,918	538,038	785,800	524,021	600,800		0.6%
Vehicle Expense	379,000	310,298	389,000	339,974	389,000		0.4%
Vehicle Expense - Capital	(276,428)	(365,504)	(510,268)	(364,762)	(510,268)		-0.5%
Transformer Maintenance (Hazardous Material)	360,000	229,330	350,000	207,785	350,000		0.3%
Training & Tuition Reimbursement Expense	329,826	75,291	329,150	141,193	338,450		0.3%
Rent Expense	212,000	212,367	212,000	211,036	233,200		0.2%
Bad Debt Expense	105,000	10,233	75,000	233	75,000		0.1%
Injuries & Damages	25,600	21,157	25,600	97,136	25,600		0.0%
RMLB/CAB	30,000	18,557	30,000	14,380	30,000		0.0%
Office Supplies	20,000	16,830	20,000	20,782	20,000		0.0%
TOTAL SEMI-VARIABLE COSTS	22,165,844	17,532,143	25,315,783	15,012,641	26,457,267		24.6%
TOTAL	\$ 92,511,695	\$ 91,420,364	\$ 109,732,215	\$ 84,435,777	\$ 107,649,522		100.0%

2024 POWER SUPPLY

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Bulk Power Cost Projections
Reading Municipal Light Department
PRELIMINARY
Total 2024 (Jan-Dec)

FCA14/15
System Peak Demand (KW)
System Energy Requirements (MWH)

RESOURCES	675,054.13 9%									
	FIXED COSTS				ENERGY VARIABLE COSTS			TRANS. COSTS		TOTAL COSTS
	(KW)	Budget (\$/KW-MO)	CF (\$)	(%)	MWH	Budget (\$/MWH)	(\$)	Budget (\$)	(\$)	Budget (\$/MWH)
NYPA	4,102	4.05	\$ 199,120.68		27,722.76	\$ 4.92	\$ 136,396.00	\$ 762,484.42	\$ 1,098,001.10	39.61
Millstone Mix 1	2,911	21.47	\$ 749,755.63		25,115.97	\$ 6.30	\$ 158,230.62	\$ 32,446.78	\$ 940,433.03	37.44
Millstone Project 3	2,075	21.37	\$ 531,882.36		17,900.59	\$ 6.30	\$ 112,773.81	\$ 23,122.01	\$ 667,778.18	37.30
Seabrook Mix 1	300	16.66	\$ 59,873.18		2,373.19	\$ 4.79	\$ 11,370.06	\$ 183.69	\$ 71,426.93	30.10
Seabrook Project 4	6,801	16.39	\$ 1,337,968.62		53,889.40	\$ 4.79	\$ 258,191.41	\$ 4,179.64	\$ 1,600,339.67	29.70
Seabrook Project 5	839	16.84	\$ 169,490.85		6,647.03	\$ 4.79	\$ 31,846.70	\$ 515.43	\$ 201,852.98	30.37
=====			=====		=====		=====	=====	=====	=====
SUBTOTAL - BASE	13,304		\$ 3,048,091.31		133,648.93		\$ 708,808.60	\$ 822,931.99	\$ 4,579,831.90	34.27
ISO FCM Costs			\$ 5,357,667.46		-	\$ -	\$ -	\$ -	\$ 5,357,667.46	0.00
FCM Payments from LP			\$ (280,407.89)		-	\$ -	\$ -	\$ -	\$ (280,407.89)	0.00
Saddleback Wind			\$ -		14,423.84	\$ 95.00	\$ 1,370,265.24	\$ -	\$ 1,370,265.24	95.00
Indian River Hydro			\$ -		2,700.71	\$ 131.55	\$ 355,287.71	\$ -	\$ 355,287.71	131.55
Pepperell Hydro			\$ -		6,912.47	\$ 133.17	\$ 920,546.21	\$ -	\$ 920,546.21	133.17
Turners Falls Hydro			\$ -		1,457.82	\$ 133.26	\$ 194,270.09	\$ -	\$ 194,270.09	133.26
Woronoco Hydro			\$ -		6,974.53	\$ 133.21	\$ 929,068.41	\$ -	\$ 929,068.41	133.21
Collins Hydro			\$ -		4,604.03	\$ 94.30	\$ 434,151.56	\$ -	\$ 434,151.56	94.30
Pioneer Hydro			\$ -		6,883.11	\$ 94.24	\$ 648,674.44	\$ -	\$ 648,674.44	94.24
Silver St Hydro			\$ -		1,130.00	\$ 68.00	\$ 76,840.13	\$ -	\$ 76,840.13	68.00
Wyre Wind Hydro			\$ -		11,721.10	\$ 66.34	\$ 777,541.92	\$ -	\$ 777,541.92	66.34
Jericho Wind			\$ -		7,189.83	\$ 110.00	\$ 790,881.08	\$ -	\$ 790,881.08	110.00
NextEra			\$ -		38,492.70	\$ 32.36	\$ 1,245,763.44	\$ -	\$ 1,245,763.44	32.36
Shepaug			\$ -		18,332.00	\$ 81.80	\$ 1,499,601.68	\$ -	\$ 1,499,601.68	81.80
Stevenson			\$ -		9,212.00	\$ 81.64	\$ 752,092.91	\$ -	\$ 752,092.91	81.64
Solar - Altus			\$ -		1,521.01	\$ 80.04	\$ 121,746.49	\$ -	\$ 121,746.49	80.04
Solar - Marina			\$ -		2,792.75	\$ 78.97	\$ 220,553.99	\$ -	\$ 220,553.99	78.97
Solar - Kearsarge			\$ -		2,307.22	\$ 75.00	\$ 173,041.42	\$ -	\$ 173,041.42	75.00
Quinebaug Hydro			\$ -		7,259.97	\$ 80.00	\$ 580,797.88	\$ -	\$ 580,797.88	80.00
RoxWind			\$ -		25,703.05	\$ 87.00	\$ 2,236,165.47	\$ -	\$ 2,236,165.47	87.00
Gravel Pit Solar III			\$ -		6,671.44	\$ 51.95	\$ 346,581.18	\$ -	\$ 346,581.18	51.95
Cabot/Turners			\$ -		34,308.26	\$ 46.15	\$ 1,583,356.58	\$ -	\$ 1,583,356.58	46.15
Dahowa			\$ -		35,880.81	\$ 79.00	\$ 2,834,584.37	\$ -	\$ 2,834,584.37	79.00
NextEra (LFG)			\$ -		8,784.00	\$ 74.45	\$ 653,968.80	\$ -	\$ 653,968.80	74.45
NextEra (Seabrook)			\$ -		128,235.15	\$ 47.81	\$ 6,130,799.34	\$ -	\$ 6,130,799.34	47.81
DG NH Seabrook #3			\$ -		-	\$ -	\$ -	\$ -	\$ -	0.00
DG NH Seabrook #4			\$ -		-	\$ -	\$ -	\$ -	\$ -	0.00
NextEra (Seabrook-Flat)			\$ -		37,519.39	\$ 50.66	\$ 1,900,732.40	\$ -	\$ 1,900,732.40	50.66
Broadleaf Solar			\$ -		-	\$ -	\$ -	\$ -	\$ -	0.00
Gravel Pit Solar V			\$ -		-	\$ -	\$ -	\$ -	\$ -	0.00
H.Q. Energy Services			\$ -		49,392.43	\$ 67.18	\$ 3,318,183.58	\$ -	\$ 3,318,183.58	67.18
Granite Wind			\$ -		-	\$ -	\$ -	\$ -	\$ -	0.00
Battery Storage			\$ 274,464.00		-	\$ -	\$ -	\$ -	\$ 274,464.00	0.00
Coop / Resale			\$ 36,000.00		-	\$ -	\$ -	\$ -	\$ 36,000.00	0.00
DG Unit			\$ 62,233.66		-	\$ -	\$ -	\$ -	\$ 62,233.66	0.00
Watson	11,400		\$ 1,368,566.12		-	\$ -	\$ -	\$ -	\$ 1,368,566.12	0.00
StoryBrook Inter	56,374		\$ 2,240,244.70		13,030.90	\$ 41.54	\$ 541,331.14	\$ 136,342.15	\$ 2,917,917.99	223.92
=====			=====		=====		=====	=====	=====	=====
SUBTOTAL - INTERMEDIATE	67,774		\$ 9,058,768.05		483,440.55		\$ 30,636,827.47	\$ 136,342.15	\$ 39,831,937.67	82.39
StoryBrook Peaking	33,705		\$ 827,341.82		343.72	\$ 273.51	\$ 94,010.60	\$ 78,995.15	\$ 1,000,347.57	2,910.35
=====			=====		=====		=====	=====	=====	=====
SUBTOTAL - PEAKING	33,705		\$ 827,341.82		343.72		\$ 94,010.60	\$ 78,995.15	\$ 1,000,347.57	2,910.35
REC Potential							\$ (2,725,471.37)	\$ -	\$ (2,725,471.37)	0.00
ISO Energy Net Interchange			\$ -		57,620.92	\$ 58.30	\$ 3,359,419.78	\$ -	\$ 3,359,419.78	58.30
Eversource Transmission			\$ -		-	\$ -	\$ -	\$ 10,080.00	\$ 10,080.00	0.01
ENE All Req/Short Supply			\$ 411,693.78		-	\$ -	\$ -	\$ -	\$ 411,693.78	0.61
ISO Ancillary/Schedule Charges			\$ 2,559,641.96		-	\$ -	\$ -	\$ -	\$ 2,559,641.96	3.79
ISO Annual Fee			\$ -		-	\$ -	\$ -	\$ -	\$ -	0.00
PRD Transmission			\$ -		-	\$ -	\$ -	\$ 113,400.00	\$ 113,400.00	0.17
ISO RNS Charges			\$ -		-	\$ -	\$ -	\$ 18,938,321.35	\$ 18,938,321.35	28.05
HQ Phase I-VEC			\$ -		-	\$ -	\$ -	\$ 4,410.00	\$ 4,410.00	0.01
HQ Phase I-NEE			\$ -		-	\$ -	\$ -	\$ 8,064.00	\$ 8,064.00	0.01
HQ Phase II			\$ -		-	\$ -	\$ -	\$ 1,890.00	\$ 1,890.00	0.00
HQ Use Right Sale			\$ (164,071.87)		-	\$ -	\$ -	\$ (749,720.28)	\$ (913,792.15)	-1.35
=====			=====		=====		=====	=====	=====	=====
SUBTOTAL - OTHER CHARGES	0		\$ 2,807,263.87		-		\$ -	\$ 18,326,445.07	\$ 21,133,708.94	31.31
=====			=====		=====		=====	=====	=====	=====
TOTAL	101,479		\$ 15,741,465.06		675,054.13	\$ 47.51	\$ 32,073,595.08	\$ 19,364,714.35	\$ 67,179,774.49	99.52
								\$ -		

Description of RMLD’s Power Supply Resources for 2024

New York Power Authority (NYPA)

RMLD receives inexpensive hydroelectric power from NYPA at its generating stations in Niagara and St. Lawrence NY. RMLD receives capacity and energy from this contract. The Massachusetts Department of Public Utilities (DPU) has appointed MMWEC as the administrator of this contract. The current contract expires in 2025. This is a non-carbon generating resource and RMLD is entitled to the associated output certificates for its share of the facility.

Seabrook Station

Seabrook Station is a 1,244-megawatt nuclear generating plant located in Seabrook, New Hampshire. An operating license for Seabrook was issued in 1986, but the plant did not begin commercial operation until 1990. The principal owner and operator of Seabrook Station is NextEra Energy Resources LLC, a subsidiary of Florida based FPL Group, Inc. NextEra owns 88.2% of Seabrook Station. The other owners are MMWEC (11.59%) and two Massachusetts municipal utilities, the Taunton Municipal Lighting Plant (0.13%) and Hudson Light & Power Department (0.08%).

On March 12, 2019, NextEra received an extension of its Seabrook operating license from the current license expiration of 2030 out to March 15, 2050. RMLD signed 3 different projects to finance Seabrook; Mix 1, Project 4, and Project 5. The debt service associated with these projects will be paid-off in 2014, 2017 and 2018, respectively. RMLD has a Life of Unit (LOU) entitlement for 0.635% or approximately 8 MWs of the unit. This is a non-carbon generating resource and RMLD is entitled to the associated output certificates for its share of the facility.

Quick Facts – Seabrook Station

Location	Seabrook, New Hampshire
On-Line Date	1990
Fuel	Nuclear – Pressurized Water Reactor
Principal Owner/Operator	NextEra Energy Resources, LLC
Total Capacity	1,244 MWs

Millstone Unit 3

Millstone Unit 3 is a 1,237-megawatt nuclear generating plant located in Waterford, Connecticut. Millstone Unit 3, which began operation in 1986, is the newest and largest

of the Millstone Station's three nuclear units, one of which is retired from service. The principal owner and operator of Millstone Station is Dominion Nuclear Connecticut, Inc., a subsidiary of Virginia-based Dominion Resources, Inc. Dominion Connecticut owns 93.4% of Millstone Unit 3.

The Nuclear Regulatory Commission (NRC) on November 28, 2005, approved Dominion Nuclear Connecticut's request for a 20-year operating license extension for Millstone's Unit 3 reactor. The license now expires in November 2045. RMLD signed two different projects to finance Millstone #3, Mix 1 and Project 3. The debt service associated with these projects has been paid off as of 2018. RMLD has a LOU agreement for 0.404% of the units which equates to approximately 4.6 MWs. This is a non-carbon generating resource and RMLD is entitled to the associated output certificates for its share of the facility.

Quick Facts – Millstone Station

Location	Waterford, Connecticut
On-Line Date	1986
Fuel	Nuclear – Pressurized Water Reactor
Principal Owner/Operator	Dominion Nuclear Connecticut, Inc.
Total Capacity	1,237 MWs

Hydro-Quebec Interconnection

The Hydro-Quebec Interconnection Phase 1 is an approximate 2,000 MW, DC electric transmission line connecting central New England with the Canadian utility Hydro Quebec. Construction of the U.S. portion of the interconnection, which stretches from Groton/Ayer, in Massachusetts to the Canadian border in northern Vermont, was a joint effort of many New England electric utilities. RMLD has an entitlement of approximately 0.47% of the capacity of the facility from this contract. Currently, RMLD sells its share of the facility's capacity.

The Hydro-Quebec Interconnection Phase 2 is a 450 kV DC electric transmission line connecting the Canadian utility, Hydro Quebec's hydro facilities at La Grande in James Bay with Sandy Pond in Massachusetts. This was a joint effort between Hydro Quebec and a number of New England electric utilities. RMLD receives approximately 0.48% of the capacity of the facility from this contract. Beginning in 2024 RMLD will enter into an agreement with Hydro-Quebec to sell the transmission rights in exchange for a firm supply of 49,000 MWh per year for five years.

Eagle Creek Energy Holdings - Hydro

In March 2011 RMLD signed purchase power agreements with Swift River Hydro, LLC for the output of four hydro systems located in Massachusetts that are effective from February 1, 2011, through January 31, 2026. Swift River Trading Company is the lead market participant for and represents these hydroelectric generators with a total nameplate capacity of approximately 7 MWs and average annual generation of 25,000 megawatt-hours per year.

These facilities include the Woronoco Hydro facility in Russell, MA, Pepperell Hydro in Pepperell, MA; Indian River Power Supply in Russell, MA; and Turners Falls Hydro in Turners Falls, MA. Each of these facilities is owned by a special purpose entity, e.g., the Woronoco facility is owned by Woronoco Hydro, LLC. In 2016, Swift River Trading Company assigned the projects to Eagle Creek Energy Holdings. The four facilities are now managed by the Eagle Creek Energy Holdings as the lead market participant for each of the facilities. RMLD is the only buyer. These are non-carbon generating resources and RMLD is entitled to the associated output certificates for its share of the facilities.

- **Pepperell Hydro:** 15-year term beginning on February 1, 2011 and ending January 31, 2026. RMLD is purchasing all of the products produced by or attributable to the facility. The facility has a nameplate capacity of 1.9 MWs. The products include, but are not limited to, Energy, Installed Capacity, Ancillary Services, Renewable Energy Certificates, and Environmental Attributes (to the extent not included in the RECs).
- **Woronoco Hydro:** 15-year term beginning on February 1, 2011 and ending January 31, 2026. RMLD is purchasing all the products produced by or attributable to the facility. The facility has a nameplate capacity of 2.7 MWs. The products include, but are not limited to, Energy, Installed Capacity, Ancillary Services, Renewable Energy Certificates, and Environmental Attributes (to the extent not included in the RECs).
- **Turners Falls Hydro:** 15-year term beginning on February 1, 2011 and ending January 31, 2026. RMLD is purchasing all the products produced by or attributable to the facility. The facility has a nameplate capacity of 1 MW. The products include, but are not limited to, Energy, Installed Capacity, Ancillary Services, Renewable Energy Certificates and Environmental Attributes (to the extent not included in the RECs).

- **Indian River Hydro:** 15-year term beginning on February 1, 2011 and ending January 31, 2026. RMLD is purchasing all the products produced by or attributable to the facility. The facility has a nameplate capacity of 1.4 MWs. The products include, but are not limited to, Energy, Installed Capacity, Ancillary Services, Renewable Energy Certificates and Environmental Attributes (to the extent not included in the RECs).

Collins Hydro

In August 2013, RMLD signed a purchase power agreement with Swift River Hydro LLC. for the output of Collins Hydro located in between Ludlow and Wilbraham Massachusetts. The contract with Swift River Hydro is effective from September 1, 2013, through August 31, 2028. RMLD receives energy only from this contract. The average annual generation is approximately 5,667 MWHs per year. This is a non-carbon generating resource and RMLD is exploring acquisition of the associated output certificates for the facility.

Pioneer Hydro

In August 2013, RMLD signed a purchase power agreement with Ware River Power Inc. for the output of Pioneer Hydro located in Ware, Massachusetts. The contract for Pioneer Hydro is effective from September 1, 2013, through August 31, 2028. RMLD receives energy only from this contract. The average annual generation is approximately 4,480 MWHs per year. This is a non-carbon generating resource and RMLD is exploring acquisition of the associated output certificates for the facility.

Hosiery Mills Hydro

In March 2014, RMLD signed a purchase power agreement with Silver Street Hydro Inc. for the output of Hosiery Mills located in Hillsborough, New Hampshire. The contract for Hosiery Mills Hydro is effective from March 1, 2014, through February 28, 2024. RMLD receives energy only from this contract. The average annual generation is approximately 2,046 MWHs per year. This is a non-carbon generating resource and RMLD is exploring acquisition of the associated output certificates for the facility.

Saddleback Ridge Wind

In December 2013, RMLD signed a purchase power agreement with Saddleback Ridge Wind, LLC for the output of Saddleback Ridge Wind located in Carthage, Maine. The contract for Saddleback Ridge Wind is effective from January 1, 2015, through December 31, 2035. RMLD receives energy plus all attributes under this contract. The average annual generation is estimated to be 15,820 MWHs per year. This is a non-

carbon generating resource and RMLD is entitled to the associated output certificates for its share of the facility.

Jericho Wind

In November 2014, RMLD signed a purchase power agreement with Jericho Power, LLC for the output of Jericho Wind located in Berlin, New Hampshire. The contract for Jericho Wind is for 20 years. The project went into commercial operation in December 2015. RMLD receives energy plus all attributes from this contract. The average annual generation is estimated to be 10,788 MWHs per year. This is a non-carbon generating resource and RMLD is entitled to the associated output certificates for its share of the facility.

RoxWind - Wind

RMLD has contracted for 50% of the output from four wind turbines in Maine. RMLD's receives 25,600 MWHs per year, starting at the end of 2021, continuing for 20 years, through 2041. This is a non-carbon generating resource and RMLD is entitled to the associated output certificates for its share of the facility.

One Burlington - Solar

In March 2015, RMLD signed a purchase power agreement with CREECA Energy, LLC for the output of 2 MW AC solar array located at One Burlington Ave., Wilmington, Massachusetts. The solar array went on-line in November 2015. The term of the contract for One Burlington is effective for ten years. The average annual generation is estimated to be 3,450 MWHs per year. This is a non-carbon generating resource and RMLD is exploring acquisition of the associated output certificates for the facility, once the forty quarters of Solar (SRECs) has run its course.

Altus Power – Community Solar

In March 2016, RMLD signed a purchase power agreement with ECA Solar, LLC for the output of a 1MW AC solar array located at 326 Ballardvale Street, Wilmington, Massachusetts. The solar array went on-line in June 2017. In May 2017, the contract was assigned to Altus Power America, Inc. DBA WL MA Solar LLC. The term of the contract for WL MA Solar LLC is twenty years. The average annual generation is estimated to be 1,700 MWHs per year. RMLD has developed a Community Shared Solar program called Solar Choice. This project is RMLD's first Solar Choice project and is fully subscribed by 500 residential customers. This is a non-carbon generating resource and RMLD is exploring acquisition of the associated output certificates for the facility, once the 40 quarters of Solar (SRECs) has run its course.

Kearsarge – Community Solar

In October 2017, RMLD signed a purchase power agreement with Kearsage Wilmington, LLC for the output of 1.8MW AC solar array located at 40-50 Fordham Road, Wilmington, Massachusetts. The solar array went on-line in February 2018. The term of the contract for Kearsage Wilmington LLC is twenty years. The average annual generation is estimated to be 2,376 MWHs per year. This project is RMLD's second Solar Choice project and is fully subscribed by 617 residential and commercial customers. This is a non-carbon generating resource and RMLD is exploring acquisition of the associated output certificates for the facility, once the 40 quarters of Solar (SRECs) has run its course.

Battery Energy Storage System – NextEra

In December 2017, RMLD was awarded a \$1 million grant for the installation of an energy storage unit at its North Reading substation. The grant is funded by the Massachusetts Department of Energy Resources (DOER). RMLD's project consists of a 5 MW Lithium-Ion Battery unit with 10 MWHs of storage capacity at its North Reading substation to reduce peak demand, thereby lowering future transmission and capacity costs related to the purchase of wholesale electricity. The battery unit will be co-located with RMLD's new 2.5-megawatt Distributed Generator. RMLD is negotiating a Battery Energy Storage System (BESS) Agreement with NextEra. BESS was placed in service on June 1, 2019.

FirstLight Hydro

RMLD has multiple contracts with FirstLight Hydro. All contracted FirstLight hydro plants are non-carbon generating resources and RMLD is entitled to the associated output certificates for its share of the output.

- **Shepaug & Stevenson:** In March 2019, RMLD signed a purchase power agreement with FirstLight Power Resources Management, LLC. for 10.3% and 7.3% of the output of the Shepaug and the Stevenson Hydroelectric Station, respectively, from May 2019 through December 2023. The average annual generation is approximately 12,000 MWHs per year on-peak and 8,000 MWHs per year off-peak. In June 2022, RMLD executed an extension of the Shepaug and Stevenson hydroelectric contract, starting in January 2024 through to 2030. RMLD will receive 13.49% of Shepaug and 9.53% of the Stevenson output. The average combined production is approximately 27,500 MWH per year.
- **Cabot-Turners Falls:** RMLD executed a contract with FirstLight in 2020 for two hydroelectric generating stations along a 2.7 mile stretch of the Connecticut River, Cabot and Turners Falls Generating Stations. Together, they are

anticipated to deliver 22,250 MWHs in 2022, 42,000 MWHs in 2023, and 34,000 MWHs from 2024 through 2030.

- **Falls Village:** RLMD is in active negotiations to receive 100% of the output from Falls Village, a hydroelectric plant in on the Housatonic River that generates 38,000 MWH annually. The contract will begin in 2025, running through 2040.

Gravity Renewables - Hydro

- **Quinebaug:** In February 2020, RMLD signed an agreement with Gravity to receive approximately 10,700 MWH per year from 2021 to 2030. The Quinebaug hydroelectric plant is located in northeastern Connecticut, near the confluence of Five Mile and Quinebaug Rivers. The facility is a non-carbon generating resource and RMLD is entitled to the associated output certificates for its share of the output.
- **WyreWynd Hydro:** RMLD has been receiving power from the WyreWynd (Aspinhook) hydro facility since 2016. The contract expired in June 2022, and RMLD and Gravity extended the contract in the spring of 2022; RMLD will continue to receive approximately 10,000 MWHs per year in 2022 and 2023. This is a non-carbon generating resource and RMLD is exploring acquisition of the associated output certificates for the facility
- **Dahowa:** In July 2021, RMLD entered into an agreement with Gravity to purchase approximately 35,000 MWH per year, from 2022 to 2045, from the Dahowa Plant in Upstate New York. The facility is a non-carbon generating resource and RMLD is entitled to the associated output certificates for its share of the output.

NextEra Transaction Facilitation Agreement (TFA)

In December 2017 RMLD signed a Master Supply Agreement, as well as a Transaction Facilitation Agreement with NextEra that enables RMLD to leverage NextEra's trade floor. RMLD approved a Risk Management Strategy that secures transactions based on price and time triggers. The Risk Management Strategy will permit RMLD to take advantage of price opportunities consistently over the next several years and beyond. This strategy will allow RMLD to secure monthly quantities that are below the four-year average versus locking in annual quantities. Additionally, the strategy of utilizing time triggers will smooth out variations in the market over time. The TFA has prompted RMLD to purchase on-peak and off-peak energy blocks out to the year 2025. Under the TFA, RMLD has currently secured 284,947 MWHs for 2022, 174,373 MWHs for 2023, 82,300 MWHs for 2024 and 5,363 MWHs for 2025.

NextEra LFG & Seabrook

In June 2020, NextEra entered into an agreement with RMLD to provide firm around-the-clock power from 2022 through 2030. RMLD will receive 100% of the output of a landfill gas power generating station in Woburn, MA, while the remainder of the energy will come from Seabrook Nuclear Generating Station. Together, these facilities will provide approximately 43,800 MWH per year of firm, around-the-clock power. These two facilities are non-carbon generating resources and RMLD is entitled to the associated output certificates.

NextEra Swap & Swap Shape Option

In July 2021, NextEra entered into an agreement with RMLD to provide approximately 93,000 MWH per year of power from the Seabrook Nuclear Generating Station, starting April 2023. This is a non-carbon generating resource and RMLD is entitled to the associated output certificates for its share of the facility.

Stony Brook Intermediate Unit

The Stony Brook Intermediate Unit is a 354-megawatt, combined-cycle power plant that entered commercial operation in 1981.

The unit's three gas turbines generate electricity using either No. 2 oil or natural gas, with additional electricity produced using a single steam turbine in the combined-cycle process. MMWEC completed construction of a natural gas pipeline to serve the Intermediate Unit in September 2002. RMLD has a Life of Unit (LOU) entitlement for 14.453% of the unit or approximately 51 MWs. RMLD has paid off the debt service associated with this project.

Quick Facts – Stonybrook Intermediate Unit

Location	Ludlow, Massachusetts
On-Line Date	1981
Fuel	No. 2 oil/natural gas
Principal Owner/Operator	MMWEC
Total Capacity	354 MWs

Stony Brook Peaking Unit

The Stony Brook Peaking Unit is a 172-megawatt peaking plant that entered commercial operation in 1982.

The unit's two turbines generate electricity using No. 2 oil. RMLD has a Life of Unit (LOU) entitlement for 19.516% of the unit which is equivalent to approximately 33 MWs. RMLD has paid off the debt service associated with this project.

Quick Facts – Stonybrook Peaking Unit

Location	Ludlow, Massachusetts
On-Line Date	1982
Fuel	No. 2 oil
Principal Owner/Operator	MMWEC
Total Capacity	172 MWs

Braintree Electric Light Department - Watson Unit

The simple-cycle gas fired plant is powered by the first two Rolls-Royce Trent 60 gas turbines built for the U.S. power generation market – known as Watson Units #1 and #2. The units entered commercial operation on June 23, 2009.

Both Watson Units are bid into the ISO New England market system daily and are dispatched based on their bid price.

The units two turbines generate electricity using natural gas, with No. 2 oil as backup fuel. RMLD has a 20-year entitlement for 10% of the unit which is equivalent to about 10 MWs.

Quick Facts – Watson Unit

Location	Braintree, Massachusetts
On-Line Date	2009
Fuel	Natural gas/No. 2 oil
Principal Owner/Operator	BELD
Total Capacity	100 MWs

