



RMILD

**READING MUNICIPAL
LIGHT DEPARTMENT**

**BOARD OF COMMISSIONERS
REGULAR SESSION MEETING**

WEDNESDAY MARCH 27, 2024



Town of Reading Meeting Posting with Agenda

Board - Committee - Commission - Council:

RMLD Board of Commissioners

Date: 2024-03-27

Time: 6:00 PM

Building: Reading Municipal Light Building

Location: Winfred Spurr Audio Visual Room

Address: 230 Ash Street

Agenda:

Purpose: General Business

Meeting Called By: Philip B. Pacino, Chair

Notices and agendas are to be posted 48 hours in advance of the meetings excluding Saturdays, Sundays and Legal Holidays. Please keep in mind the Town Clerk's hours of operation and make necessary arrangements to be sure your posting is made in an adequate amount of time. A listing of topics that the chair reasonably anticipates will be discussed at the meeting must be on the agenda.

All Meeting Postings must be submitted in typed format; handwritten notices will not be accepted.

Topics of Discussion:

ON MARCH 29, 2023, GOVERNOR HEALEY SIGNED INTO LAW A SUPPLEMENTAL BUDGET BILL WHICH, AMONG OTHER THINGS, EXTENDS THE TEMPORARY PROVISIONS PERTAINING TO THE OPEN MEETING LAW TO MARCH 31, 2025.

FOR REMOTE AND/OR PUBLIC PARTICIPATION

Please email rmldevents@RMLD.com. Please include your full name, address, and phone number. Comments and questions will be monitored during the meeting.

This meeting will be held in person, remotely on zoom, and streamed live on RCTV and YouTube:

<https://www.youtube.com/c/RCTVStudios/videos?view=57>.

Join Zoom Meeting

<https://rmlid.zoom.us/j/84331833478?from=addon>

Meeting ID: 843 3183 3478

One tap mobile

+13126266799,,86900260203# US (Chicago)

+16469313860,,86900260203# US

Dial by your location

• +1 929 205 6099 US (New York)

Find your local number: <https://rmlid.zoom.us/u/kc5UK8UyMZ>

1. Call Meeting to Order – P. Pacino, Chair

This Agenda has been prepared in advance and represents a listing of topics that the chair reasonably anticipates will be discussed at the meeting. However the agenda does not necessarily include all matters which may be taken up at this meeting.



Town of Reading Meeting Posting with Agenda

Code of Conduct: The RMLD Board of Commissioners recognizes the importance of hearing public comment, at the discretion of the Chair, on items on the official agenda. Once recognized by the Chair, all persons addressing the Board shall state their name and address prior to speaking. It is the role of the Chair to maintain order in all public comment or ensuing discussion.

2. Public Comment - P. Pacino, Chair
 - Citizens' Advisory Board
 - Liaisons to the RMLD Board
 - Public Comment
3. Discussion on Board of Commissioners Roles in Preparation for April Reorganization – P. Pacino, Chair
4. Report on the Citizens' Advisory Board Meeting – R. Porter, Commissioner
5. Approval of Board of Commissioners Meeting Minutes (attachment 1) – P. Pacino, Chair

Suggested Motion: Move that the RMLD Board of Commissioners approve the November 15, 2023, open session meeting minutes, as presented, on the recommendation of the General Manager and the Board Secretary.

6. Update on Release of Executive Session Minutes – P. Pacino, Chair
7. PURMA Insurance Review (attachment 2) -Nichole Magnifico, Executive Director, PURMA
8. Long Duration Energy Storage (attachment 3) – B. Bullock, Director of IRD and T. Wiley, Form Energy

Suggested Motion: Move that the RMLD Board of Commissioners, on the recommendation of the Citizens' Advisory Board, vote to accept the General Manager's recommendation to enter negotiations with Form Energy for a long duration energy storage system, with final contract approval under a separate and subsequent motion.

9. In-Territory Generation Options Study Results (attachment 4) – J. Wiley, Veolia
10. Carbon Quest Site Visit Report (attachment 5) – B. Bullock, Director of IRD
11. Capital Budget Increase for In-Territory Generation and Storage (attachment 6) – G. Phipps, General Manager

Suggested Motion: Move that the RMLD Board of Commissioners, on the recommendation of the Citizens' Advisory Board, vote to accept the General Manager's recommendation, to approve an additional 140 million dollar increase to the 2024 capital budget as a new line item for potential in-territory generation and storage projects, for commissioning within the next 5 years.

12. General Manager's Report (attachment 7) – G. Phipps, General Manager

13. Scheduling – P. Pacino, Chair

This Agenda has been prepared in advance and represents a listing of topics that the chair reasonably anticipates will be discussed at the meeting. However the agenda does not necessarily include all matters which may be taken up at this meeting.



Town of Reading Meeting Posting with Agenda

2024 WARRANT SCHEDULE

	AP	PAYROLL	CAB Coverage
March	Coulter	Pacino	Porter
April	Talbot	Daskalakis	Coulter
May	Pacino	Porter	Talbot
June	Daskalakis	Coulter	Pacino
July	Porter	Talbot	Daskalakis
August	Coulter	Pacino	Porter
September	Talbot	Daskalakis	Coulter
October	Pacino	Porter	Talbot
November	Daskalakis	Coulter	Pacino
December	Porter	Talbot	Daskalakis

BOARD OF COMMISSIONERS MEETING SCHEDULE

Date	Time	Location	CAB Coverage
Wednesday March 27, 2024	6:30 PM	RMLD AV Room	Welter
Wednesday April 17, 2024	6:30 PM	RMLD AV Room	Welter
Thursday May 23, 2024	7:30 PM	RMLD AV Room	Kelley
Thursday June 27, 2024	7:30 PM	RMLD AV Room	Soni

CITIZENS' ADVISORY BOARD MEETING SCHEDULE

Date	Time	Location	BoC Coverage
Thursday April 18, 2024,	6:30 PM	RMLD AV Room	Talbot
Thursday May 23, 2024	5:30 PM	RMLD AV Room	Coulter
Thursday June 27, 2024	5:30 PM	RMLD AV Room	Pacino

14. Executive Session - P. Pacino, Chair

Suggested Motion: Move that the RMLD Board of Commissioners go into Executive Session pursuant to Massachusetts G.L. c.164 section 47D, exemption from public records and open meeting requirements in certain instances, to discuss the deployment of security personnel or devices, or strategies with respect thereto relative to Cybersecurity, the approval and release of executive session minutes, and return to regular session, for the sole purpose of adjournment. Note: Roll call vote required.

15. Adjournment **ACTION ITEM**

Suggested Motion: Move that the Board of Commissioners adjourn regular session. Note: Roll call vote required.

BOARD MATERIALS AVAILABLE BUT NOT DISCUSSED

This Agenda has been prepared in advance and represents a listing of topics that the chair reasonably anticipates will be discussed at the meeting. However the agenda does not necessarily include all matters which may be taken up at this meeting.



Town of Reading Meeting Posting with Agenda

Accounts Payable / Payroll Questions through March 22, 2024
Surplus and Scrap Material Report February 2024
December 2023 Pre-Audit Financials

ATTACHMENT 1
APPROVAL OF MEETING MINUTES

ATTACHMENT 2
PURMA INSURANCE REVIEW



PURMA

PUBLIC UTILITIES RISK MANAGEMENT ASSOCIATION

Commissioner's Insurance Review

RMLD



Reading Municipal Light Department
RELIABLE POWER

Public Utilities
Risk Management Association

1900 West Park Drive, Suite 280
Westborough, MA 01581
Phone (508) 983-1458
www.purma.org



PURMA is a 501(C) (6) not- for- profit association governed by a seven member board of directors elected from representatives of the member utility systems in accordance with our formal by-laws. A qualified professional staff is in place to manage the ongoing operations of the association and provide services to our members. We partner with a licensed broker to procure commercially available insurance products on behalf of our members.

PURMA seeks to function in place of a risk management department for members without a risk manager or as an additional resource for members with a risk manager.

History

PURMA was formally organized in 1996. Our program's origins, however, date back as far as 1977 when a small group of municipally-owned utilities banded together to collectively purchase group liability insurance coverage. From that time, insurance lines, related products and services, and membership have steadily grown to what they are today.

Philosophy

PURMA seeks to provide members with access to insurance at reasonable cost regardless of market conditions and to offer and promote loss prevention and risk management resources to our members.

What Does PURMA Do?

PURMA provides members with professional, cost effective, risk management and insurance services. We create risk management solutions that meet the unique needs of each member. We provide high quality low cost insurance solutions to our membership. Our vision is to become the risk management partner of every municipal and cooperative utility in the Northeast.

Who Joins PURMA?

PURMA utility members are publicly owned, nonprofit electric, gas, water, telecommunications, cable TV, and sewer utilities. This includes municipal utilities and rural cooperatives. PURMA also accepts associate members who subscribe to our high business standards and can help members achieve their goals and objectives.

Public Utility Mutual Insurance Company

(A Risk Retention Group)



The Member-Owned Insurance Alternative

Liability insurance programs are provided by Public Utility Mutual Insurance Company, A Risk Retention Group (PUMIC), a liability insurance company, which is owned by its members. PUMIC was originally formed as an association captive insurance company in 1997 by several PURMA utility members to take advantage of the outstanding loss history experienced by municipal utilities in the Northeast.

All members of PUMIC are municipal utilities or associated tax-exempt public entities providing electric, gas, water, sewer, telecommunications and cable TV. More than 90% of our member's revenue is generated by electric utility services.

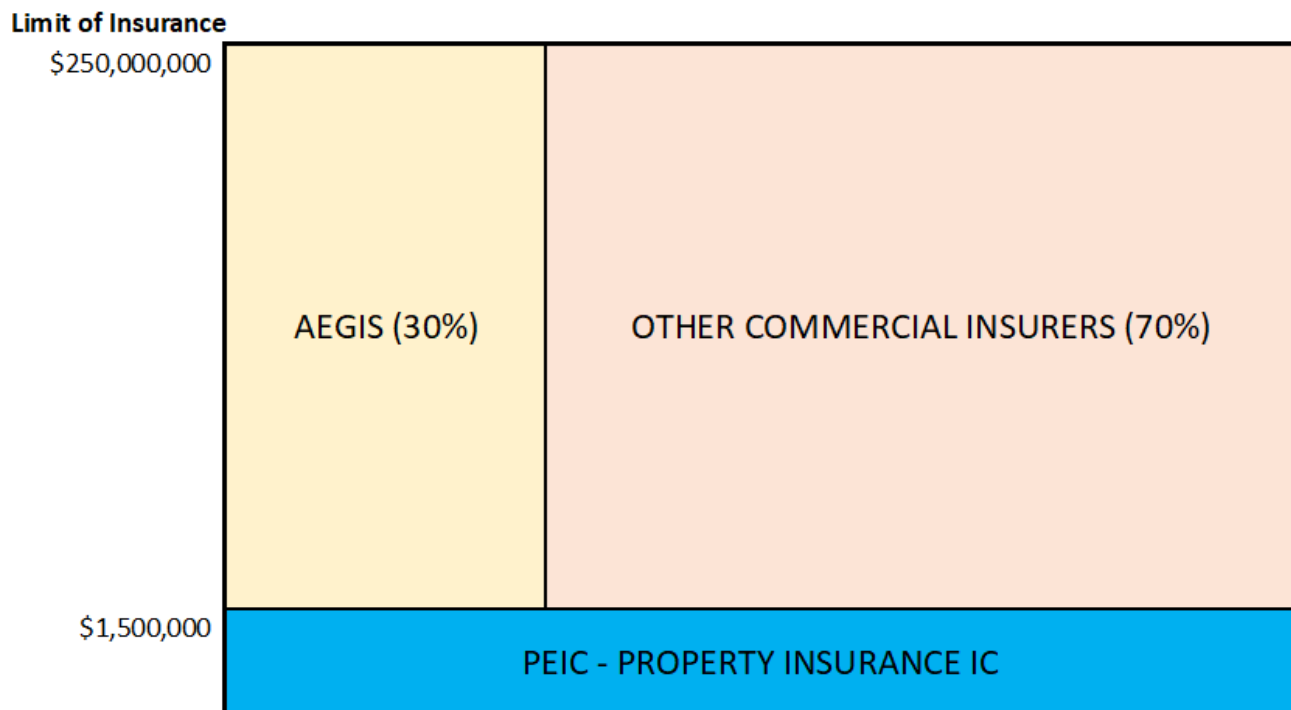
In 1977, a small insurance buying group of publicly owned utilities began to face the growing difficulty of procuring sufficient general liability insurance due to hardening insurance markets and the accompanying increase in premiums. The Northeast Public Power Association (NEPPA) acted as the sponsor and coordinator for the group. NEPPA is the regional service organization for publicly owned utilities in the northeast. The insurance program grew in both coverage and membership. In 1992 a full-time Director of Risk Management was hired to manage the program and continue its growth. In 1996, with the group growing and new programs planned, PURMA was created. While a separate entity from NEPPA, NEPPA and PURMA remain "sister" organizations. The Director of Risk Management filled the newly created position of Executive Director, and a Director of Risk Management and office manager were hired.

The insurance program was essentially a cooperative purchasing group, with an extraordinarily low loss experience. A feasibility study was conducted for creating a captive insurance company. The findings supported the concept, and PUMIC, a Vermont domiciled association captive, was created with \$1 million capital contributed from six PURMA members. PUMIC began writing casualty lines of insurance on December 31, 1997. In 2007, the organization, while maintaining its structure as a mutual insurance company, converted to a risk retention group (RRG) under the Federal Liability Risk Retention Act.

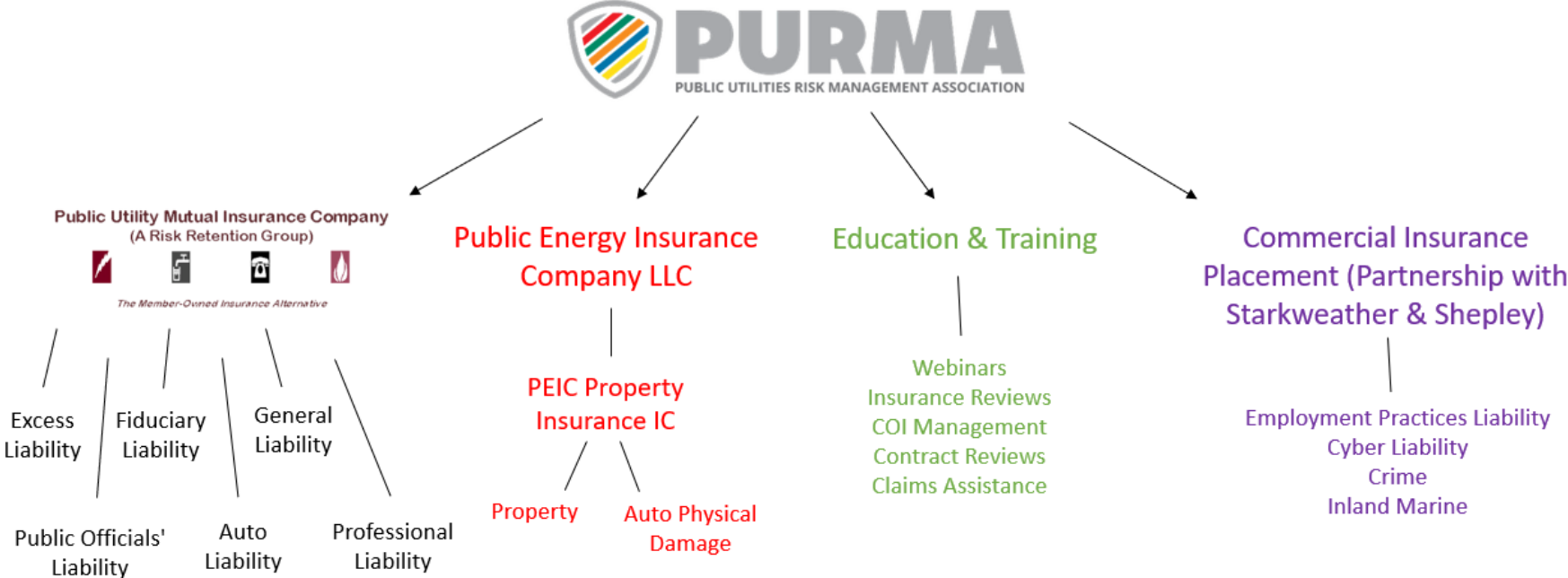
PURMA acts as the general administrator for PUMIC and provides information on the insurance products offered to PURMA members. Please refer to the organization chart. To access PUMIC's services, a utility must join PURMA. PUMIC is reinsured by Associated Electric & Gas Insurance Services (AEGIS). PUMIC is domiciled in the State of Vermont, regulated by the Vermont Department of Financial Regulation, and is registered to operate in the States of Vermont, Massachusetts, Rhode Island, Connecticut, New Hampshire and New York.

ABOUT PEIC

With PURMA's \$250 million dollar property program being significantly impacted by the hard commercial insurance market conditions since 2019, PURMA has gone from having a handful of insurance partners to over 20. Insurers are limiting capacity and increasing pricing, both of which are unfavorable conditions for our membership. Historically, PURMA has procured a commercial insurance policy to cover all property exposures. During PURMA's 2021 property insurance renewal, the association was able to purchase insurance for only 53% of this primary layer. In response, 22 property members under the leadership of PURMA's Executive Director formed a Sponsored Captive domiciled in the State of Vermont. A Sponsored Captive structure is appealing for its flexible design which could provide additional benefits to PURMA members in the future. Cells can be utilized to facilitate an insurance program for a subset of PURMA members. Beginning in 2021, the sponsored captive, Public Energy Insurance Company, LLC holds one protected cell, PEIC Property Insurance IC (PEIC) which acts as the first layer of coverage for PURMA Property members. As members equity in PEIC grows, PURMA will look to expand the capacity of the protected cell. In 2024, PEIC expanded to offer our members Auto Physical Damage Insurance which will provide premium stabilization in years to come.

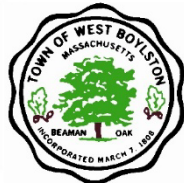
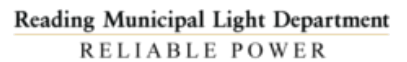


PURMA/PUMIC/PEIC Organization Chart





— CVEC | electric cooperative —



Policy Type	Definition	Insurer	Effective Dates	Limit/Retention*	Notes
Auto Physical Damage	Provides first party coverage to RMLD's registered vehicles.	PEIC	1/1/2024 - 1/1/2025	Retention: \$1,000	Auto Physical Damage Symbols - 2 (Owned Autos), 8 (Hired Autos)
Auto Liability	Provides property damage and bodily injury coverage to third parties when RMLD is negligent for an auto accident.	PUMIC	1/1/2024 - 1/1/2025	Limit: \$500,000	Auto Liability Symbol - 1 (Any Auto)
Crime	Protects RMLD against losses due to employee dishonesty, forgery or alteration, computer fraud coverage, funds transfer fraud, kidnap, ransom, social engineering, counterfeit money etc.	Travelers	12/31/2023 - 12/31/2024	Employee Theft Limit: \$500,000 Retention: \$2,500	Social Engineering Limit \$100K Retention: \$5,000
Cyber	This policy is intended to cover a variety of both liability and property losses that may result when a business engages in various electronic activities such as data breach, ransomware, multimedia liability etc.	Tokio Marine Kiln (TMK)	8/22/2023 - 8/22/2024	Limit: \$3,000,000 Retention: \$300,000	
Public Officials' Liability	Provides liability coverage for the alleged errors and omissions of Public Officials, Directors & Officers.	PUMIC	1/1/2024 - 1/1/2025	Limit: \$3,000,000 Retention: \$15,000	
Employment Practices Liability Insurance	This policy covers allegations of wrongful termination, discrimination, sexual harassment, retaliation, defamation, invasion of privacy, failure to promote etc.	Chubb	1/1/2024 - 1/1/2025	Limit: \$1,000,000 Retention: \$15,000	Includes third party coverage
Excess Liability	A policy issued to provide limits in excess of an underlying liability policy.	PUMIC	1/1/2024 - 1/1/2025	Limit: \$25,000,000 Retention: \$500,000	This policy sits over the Auto & General Liability Exposures.
Fiduciary Liability	This policy covers RMLD in the event of an errors and omissions (E&O) in the administration of employee benefit programs as imposed by the Employee Retirement Income Security Act (ERISA).	PUMIC	1/1/2024 - 1/1/2025	Limit: \$25,000,000 Retention: \$0	
General Liability	This policy responds to allegations that RMLD's negligence has caused property damage or bodily injury to a third party.	PUMIC	1/1/2024 - 1/1/2025	Limit: \$500,000 Retention: \$25,000	
Inland Marine/Contractors Equipment	First party insurance for property in transit.	Acadia	1/1/2024 - 1/1/2025	Retention: \$1,000	
Property	First-party insurance that indemnifies RMLD for its loss, when the loss or damage is caused by a covered peril, such as fire or explosion.	AEGIS - Primary Insurer	2/20/2024 - 2/20/2025	Limit: \$250,000,000 Retention: \$50,000	Property Insurance includes participation in PEIC
Railroad Liability	Insurance coverage protecting a railroad from liability it incurs because of the work of contractors on or near the railroad right-of-way.	Hudson Insurance	12/31/2023 - 12/31/2024	Limit: \$5,000,000 Retention: \$0	

ATTACHMENT 3
LONG DURATION ENERGY STORAGE

BREAKTHROUGH LOW-COST, MULTI-DAY ENERGY STORAGE

Sarah Jackson - Policy Manager, Eastern Region
Sam Simmons - Staff Business Development Manager



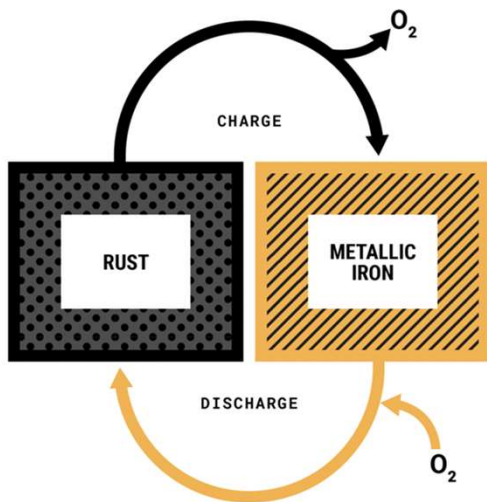
Energy Storage
For A Better World

CONFIDENTIAL



Rechargeable iron-air is the best technology for multi-day storage

Reversible Rust Battery



COST

Lowest cost rechargeable battery chemistry. Less than 1/10th the cost of lithium-ion batteries



SAFETY

Non-flammable aqueous electrolyte. No risk of thermal runaway. No heavy metals.



SCALE

Uses materials available at the global scale needed for a zero carbon economy. High recyclability.



RELIABLE

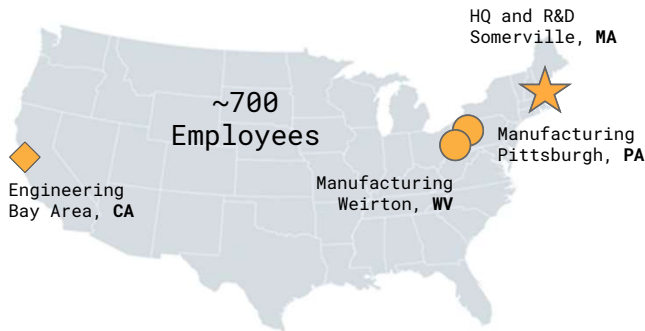
100+ hr duration required to make wind, water and solar reliable year round, anywhere in the world.



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CONFIDENTIAL 2

Rising to the challenge of climate change with a team that will deliver



OUR INVESTORS: LONG-TERM AND IMPACT-FOCUSED

\$820M+ in venture capital from top investors including: Breakthrough Energy Ventures (BEV), TPG's Climate Rise Fund, Coatue Management, GIC, NGP Energy Technology Partners III, ArcelorMittal, Temasek, Energy Impact Partners, Prelude Ventures, MIT's The Engine, Capricorn Investment Group, Eni Next, Macquarie Capital, Canada Pension Plan Investment Board, and other long-term, impact oriented investors

LED BY ENERGY STORAGE VETERANS

Decades of cumulative experience in energy storage

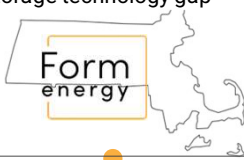
- 100's of MW of storage deployed



Accelerating progress towards a decarbonized grid

2017

- Form Energy spun out of MIT and founded to address multi-day energy storage technology gap



2019

- Key iron-air cell performance proof points demonstrated at laboratory scale (~100 cm²)



2021

- \$240M Series D, led by ArcelorMittal
- First module (>1m³) on test
- First production scale electrode from pilot mfg. facility



2023

- Broke ground at 500MW/yr Form Factory 1
- Announced projects with Xcel Energy, Dominion Energy, CA CEC & NYSERDA totaling 40 MW



2018

- Iron-air technology selected after exhaustive technology evaluation and downselection effort
- \$4M ARPA-E award



2020

- 1.5MW Pilot Project with GRE announced
- \$2M CA Energy Commission award
- Large-format testing (>3,000 cm²)
- Acquired NantEnergy air cathode IP



2022

- 15 MW Pilot Project with Georgia Power announced
- \$450M Series E, led by TPG Rise
- First multi-module system on test
- 500MW/yr production site selection process initiated



Form Factory 1: Commercial-Scale Manufacturing

Transforming Weirton Steel Land for Battery Manufacturing in West Virginia



Building rendering

February 2024 Update

- **Total Local Investment:** \$760 million
- **Construction Start:** Early 2023
- **Production Start:** Late 2024
- **Jobs:** Minimum of 750 full-time jobs

- Location Benefits**
- Close to our existing pilot manufacturing facility in PA
 - Strong natural infrastructure
 - Local manufacturing know-how

- Factory Function**
- Semi-to-fully automated cell, module, & enclosure assembly
 - Ability to scale production in modular blocks

Over 5 GWh of Commercial Engagements



First-of-its-kind **1.5 MW / 150 MWh** MDS project in Cambridge, Minnesota to come online in 2024



Two 10 MW / 1,000 MWh MDS systems; one in Becker, MN and one in Pueblo, CO. Both expected to come online as early as 2025



5 MW / 500 MWh MDS system in collaboration with the California Energy Commission in Mendocino County; online by 2025



10 MW / 1000 MWh MDS system in New York to come online as early as 2025



15 MW / 1500 MWh MDS system in Georgia to come online as early as 2026



5 MW / 500 MWh MDS system in Virginia to come online as early as 2026



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Multi-day storage supports RMLD's mission of serving customers with reliable, low cost and increasingly non-carbon energy



Reliable

Multi-day storage can step in to avoid load shedding during system scarcity events such as winter weather driven gas shortages



Low Cost

Multi-day storage can consistently shave the system peak and reduce ISO-NE transmission and capacity charges



Zero-carbon

Multi-day storage, when charged from renewables (either in territory or imported) provides 100% carbon free electricity



Further reading

Videos

[Form Energy: Overview video](#)

[Form Energy Virtual Lab tour with CTO Billy Woodford](#)

[Form Factory 1: Construction Progress](#)

Whitepapers

[The Value of Multi-Day Storage in New England](#)

[Case Study with Great River Energy](#)

[Blog Post: A clean grid requires firm power. Here's what that means for energy storage](#)

Press

[PV Magazine: Form Energy's solution for a fossil free New England: \\$100 billion in savings](#)

[MIT Energy Initiative: Power when the sun doesn't shine](#)

[Wall Street Journal: Startup Claims Breakthrough in Long Duration Batteries](#)





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Thank you!






Multi-Day Storage (MDS) Form Energy

21 March 2024

RMLD



Reading Municipal Light Department
RELIABLE POWER

Multi-Day Storage (MDS)

10MW MDS system in RMLD territory could help smooth the transition to net zero electricity and maintain our mission of reliable, low cost and non-carbon electricity delivery.

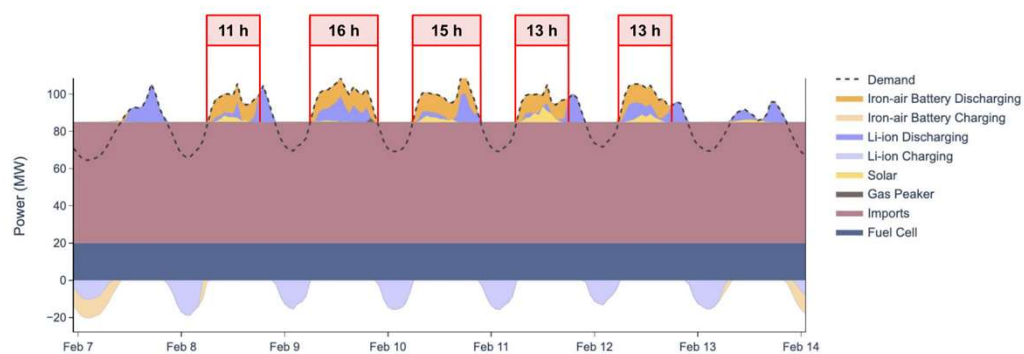
- Peak reduction to manage increasing transmission and capacity costs
- Interday energy price arbitrage to help mitigate price volatility, especially with increasing mix of intermittent renewable resources.
- MDS can limit impact of possible ISO NE mandatory load reductions

Creates opportunity to create a “Clean Energy Hub” on a soon to be acquired parcel with the Carbon Capture Fuel Cell.



Peak Reduction / Energy Arbitrage

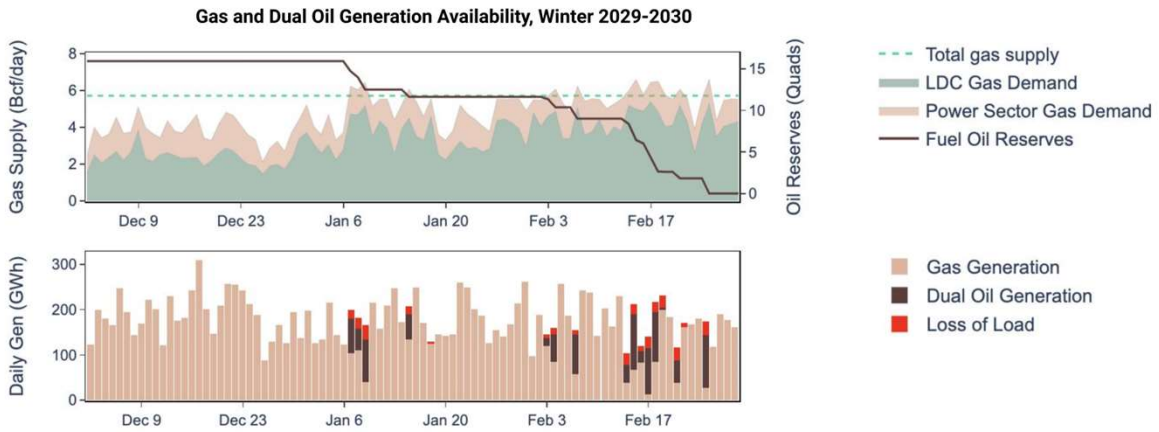
- MDS can help flatten the curve, shifting load across multi-hour periods. Creating arbitrage opportunities and reducing risk of oversupply in low demand periods.



Source: Form Energy: Breakthrough Low-Cost Multi-Day Storage RMLD Analytics Readout Mar 2024

3

MDS as a Winter Reliability Resource



Source: Form Energy: Breakthrough Low-Cost Multi-Day Storage RMLD Analytics Readout Mar 2024

4

Path Forward

- Promote project within Commonwealth
 - Highlight the “Clean Energy Hub”
 - Position as another component of RMLD in-territory strategy
 - Seek state level grant
- Develop risk mitigation plan
- Confirm land parcel
- Refine commercial structure with Form Energy
 - Update financial models
 - Negotiate MOU / contract
- Secure CAB / BoC approvals



Thank You
from the RMLD Team



ATTACHMENT 4
IN-TERRITORY GENERATION
OPTIONS STUDY RESULTS




In-Territory Generation
Technology Assessment
Independent Report
Veolia North America

BoC and CAB Report
from Integrated Resources & Veolia

21 March 2024

Third Party In-Territory Generation Study

- RFP was issued in December 2023 for a report to assess in-territory generation options for RMLD by an independent third party.
 - Veolia North America – Sustainable Industries and Buildings selected
- Veolia and RMLD created a list of potential technologies to meet RMLD’s long term energy supply needs given our mission of reliable, low cost, and increasingly non-carbon electricity delivery.

	Screening Criteria		
	Capacity Requirements	Capital Cost	Non-Fuel OpEx Costs
	Carbon Emissions	Fuel Cost	Incentives
	Time Frame	Technical Attributes	Land Area Requirements

2

In-Territory Generation – Summary Results

Description	Units	Wind	Solar	Carbon Capture Fuel Cell	Geothermal	Hydrogen Engine (High Fuel Cost)	Hydrogen Engine (Low Fuel Cost)
Capacity	MW per 100k MWh	43	69	12	14	13	13
Capacity Factor	%	26%	17%	95%	80%	95%	95%
Levelized Cost of Electricity	\$/MWh	\$48	\$60	\$99	\$179	\$1,014	\$526
Land Cost	\$/MWh	\$105	\$100	\$0.11	\$0.01	\$0.01	\$0.01
Total Levelized Cost of Electricity	\$/MWh	\$153	\$159	\$99	\$179	\$1,014	\$526
Timeframe	Years	3-4	1-2	1-3	7-10	2-3	8+

3 Source: 2024-02-28 – RMLD_In-Territory Generation Technology Assessment (Rev 1)

Thank You



ATTACHMENT 5
CARBON QUEST SITE VISIT REPORT



Carbon Quest Phase 1 Due Diligence Trip Report

21 March 2024

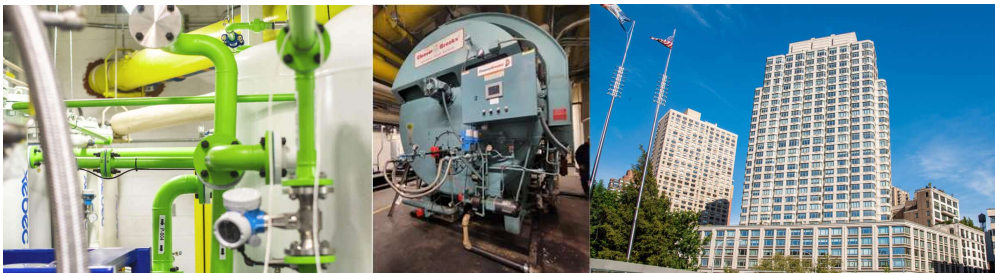
RMLD



Reading Municipal Light Department
RELIABLE POWER

The System at 1930 Broadway NYC

- 232 Unit, 30 Story Apartment Building, 2002 construction
- Two 400HP Boilers, that divert flue gas to Carbon Quest system 2021
- Dewater > Compression > Zeolite Absorbs CO₂ > Vacuum Releases CO₂ > Cryogenically Stored as Liquid > Trucked Away
- ~5 tons per day of CO₂ removal



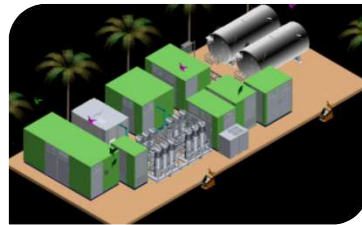
Applicability to RMLD

- Will remove >92% of CO₂ from fuel cell flanged exhaust
 - Provides 20 MW of base load capacity; compliant with 2021 Climate Law
- Modular design with integration to Fuel Cell
 - Simplifies scale up
 - Reduces construction risk and cost
- Current business model, Carbon Quest to market CO₂ captured
 - Concrete, Polymers and Chemicals, Liquid Fuels
 - Purchase CO₂ from RMLD



Path Forward

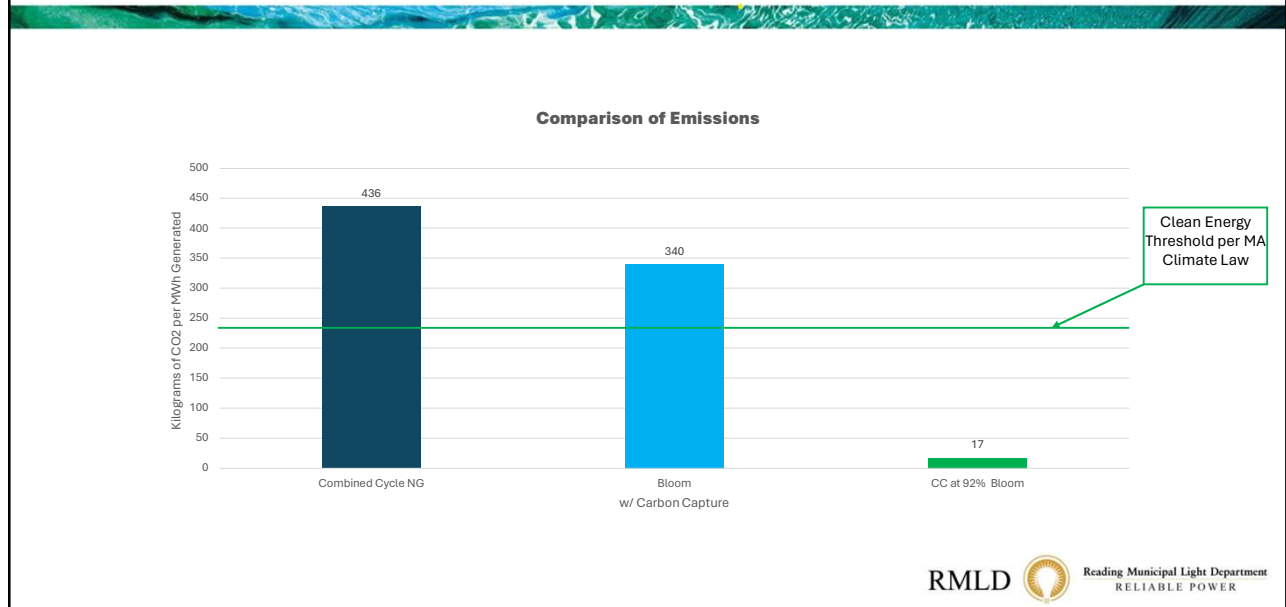
- Review other carbon capture options in parallel
- Continue Due Diligence
 - Risk mitigation elements
 - scale up
 - supply chain
 - counter party
 - performance
 - longevity / reliability
 - regulatory
- Develop LOI with Carbon Quest
 - More detailed design contingent on threshold economics/performance/regulatory hurdles



Thank You
from the RMLD Team

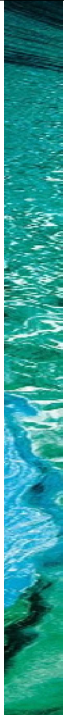


Carbon Comparison



ATTACHMENT 6

**CAPITAL BUDGET INCREASE FOR IN-
TERRITORY GENERATION**



2024 Capital Budget Increase Notes

*Presented to the
Board of Commissioners and
Citizens Advisory Board*

21 March 2024

Carbon Capture Fuel Cell – financial notes

Gross project estimated \$140 million including carbon capture (CC) asset

- But, carbon capture asset is more likely an energy services contract, rather than asset purchase
- 20% contingency included in estimates
- IRA22 likely to provide 30% direct pay grant, once project commissioned
- Other grants will be pursued given this is a novel project (excluded from this analysis)
- Net estimated cost to RMLD - \$80 million

Operating cash flow provides net savings by year 3

- In territory generation cost lower than wholesale cost (energy, transmission, and capacity)
- Certificate value including in modeling (consistent with Policy 30)
- Financial model includes debt service (15 year bond)
- Model assumes selling CO2 and not owning CC asset
- Positive project NPV

Land for CCFC was included in 2024 capital budget, as a separate line

Bid process looking more likely, hence, budget line item is a prerequisite to progressing project

2

source: Cost Comparison CCFC 2024-03-19

budget motion

Several new capital projects materializing

project	description	gross capex (\$ million)	est net RMLD capex (\$ millions)	2024 budget	est annual capex cash out flow (\$ millions)			
					2024	2025	2026	2027
Carbon Capture Fuel Cell	20 MW generation system	140	80	no	12	25	30	13
Long Duration Battery	10 MW 50-100 hour duration battery storage	36	9	no	1	4	4	
RT 125 Land	41 acres of land	6	6	yes	6			
Maple Meadow Energy Park	8 MW solar / 10 MW battery	30	30	no		5	10	15
Maple Meadow Land	75 acres of land	3	3	yes	1	1	1	
Lynnfield H2O Energy	2 MW solar / 10 MW battery (water plant backup)	9	7	no		3	4	
Town PV (North Reading)	School (HS roof or parking lot canopy)	5	4	no		1	3	
Town PV (Reading)	Schools (Parker, Killam)	1	1	no			1	
Town PV (Wilmington)	Senior Center, Schools (Shawsheen, West)	2	2	no		1	1	
	subtotal	232	142		20	40	54	28

3

source: in territory gen projects 2024-03-19

*Business models not yet finalized but RMLD ownership of assets is preferred where possible
Hence, bid process may be required for projects or project components*

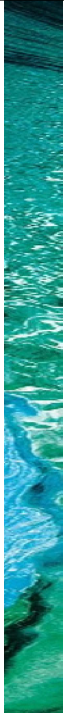
Therefore, generation and storage projects need budget line item to enable bid process

Each project will be presented to CAB/BoC for approvals (this budget approval is not funding approval of these projects)

Thank You



ATTACHMENT 7
GENERAL MANAGER'S REPORT



General Manager Update

*Presented to the
Board of Commissioners and
Citizens Advisory Board*

21 March 2024

RMLD - team, grants

New Director of HR on board and running

Actively recruiting

- Director of Engineering
- Director of Enterprise Data - mid 2024

External marketing

- Emphasizing education in addition to informing
- Sharing context and RMLD strategy to adjust
- C&I incentive programs

Some reconfiguration at 230 Ash building

- Place teams closer to each other and team leaders
- Faster and better internal coordination

Second round submission for Grid Modernization grant due May (w/ PMLP)

10 hr battery joint grant submission first round results expected in April



RMLD - infrastructure

RT 125 land LOI fully executed

- Due diligence stated
- Targeting close end of summer 2024

Maple Meadows

- Pathway to “site ready for PV” identified with DEP
- Title resolution via interim ground lease
- Targeting ownership by 2027

Station 6 – progress and delay

- 4Q23 – system impact study complete
- 2024 site prep, equipment orders, transformers
- 4Q25 initial commissioning more likely early 2027 (transmission connection likely pushed out)
- 2024 maintenance extends Station 5 reliability

50kV padmount transformers delivery received

- Total outstanding orders (not yet received) remains ~400 (vs 150 typical)

Focus on pole clean-up (replacements, double-poles, pole butts, ...)

- Additional digger rented given long lead time on ordered digger (and other trucks)

3

Thank You



MATERIALS AVAILABLE BUT NOT DISCUSSED

AP and Payroll Questions for the 2024-03-27 BoC Board Book

Erica Morse <emorse@rml.com>

Thu 3/21/2024 6:46 PM

To: Erica Morse <emorse@rml.com>

AP

From February 16, 2024, through March 22, 2024, there were no Commissioner questions.

Payroll:

From February 19, 2024, through March 18, there were no Commissioner questions.

Erica Morse
Executive Assistant
Reading Municipal Light Department
O: 781-942-6489
C: 617-791-3304
www.rml.com



Surplus Update - February 2024

Maureen Sullivan <msullivan@RMLD.com>

Thu 2/29/2024 4:40 PM

To: Erica Morse <emorse@rml.com>

Cc: Paula O'Leary <poleary@RMLD.com>

Good afternoon Erica,

I am sending this email to inform you that there were NO Surplus Items of Substantial Value that were disposed of in February 2024.

Thank you,
Maureen

Maureen Sullivan

Assistant Materials Manager

Reading Municipal Light Department (RMLD)

230 Ash Street

Reading, MA 01867

Tel. No. 781-942-6441

Email: msullivan@rml.com

Town of Reading, Massachusetts
Municipal Light Department
Statement of Net Assets
12/31/2023

	DECEMBER 2023	DECEMBER 2022
ASSETS		
Current:		
Unrestricted Cash	\$ 21,070,912	\$ 23,137,479
Restricted Cash	39,114,927	29,109,300
Restricted Investments	1,438,579	793,916
Receivables, Net	10,723,770	9,287,089
Prepaid Expenses	3,917,950	1,489,003
Inventory	3,161,604	2,295,222
Total Current Assets	79,427,741	66,112,010
Noncurrent:		
Lease Receivable	1,993,599	1,993,599
Investment in Associated Companies	1,063,861	976,518
Construction in Progress	1,031,779	654,652
Capital Assets, Net	94,598,800	91,330,396
Total Noncurrent Assets	98,688,039	94,955,165
Deferred Outflows	6,113,387	6,113,387
TOTAL ASSETS	184,229,167	167,180,562

PRE-AUDIT

LIABILITIES		
Current		
Accounts Payable	10,789,426	8,907,542
Accrued Liabilities	652,108	719,274
Customer Deposits	1,790,684	1,681,059
Advances from Associated Companies	200,000	200,000
Contribution in Aid of Construction	3,559,246	2,911,725
Total Current Liabilities	16,991,464	14,419,600
Non-current		
Accrued Employee Compensated Absences	964,193	1,400,945
Net OPEB Obligation	4,269,089	4,269,089
Net Pension Liability	5,358,701	5,358,701
Total Non-current Liabilities	10,591,983	11,028,735
Deferred Inflows	9,802,918	9,802,918
TOTAL LIABILITIES	37,386,364	35,251,253

NET POSITION

Invested in Capital Assets, Net of Related Debt	94,598,800	91,330,396
Restricted for Depreciation Fund	18,824,339	13,241,031
Restricted for Pension Trust	-	3,091
Unrestricted	33,419,664	27,354,790
TOTAL NET POSITION	146,842,803	131,929,309
Total Liabilities and Net Assets	\$ 184,229,167	\$ 167,180,562

Town of Reading, Massachusetts
Municipal Light Department
Business Type Proprietary Fund
Statement of Revenues, Expenses and Changes in Fund Net Assets
12/31/2023

	Month Current Year	Month Last Year	Year to Date Current Year	Year to Date Last Year	Percent Change
Operating Revenues					
Base Revenue	\$ 3,335,193	\$ 2,257,522	\$ 36,405,953	\$ 29,967,183	21.5%
Fuel Revenue	2,111,193	2,928,113	30,969,565	36,961,878	(16.2%)
Purchased Power Capacity & Transmission	2,539,525	2,770,742	32,568,572	31,737,379	2.6%
Forfeited Discounts	58,840	71,533	913,041	811,391	12.5%
Energy Conservation Revenue	222,867	148,685	2,427,092	1,943,029	24.9%
NYPA Credit	(25,262)	(117,836)	(1,219,499)	(1,203,582)	1.3%
Total Operating Revenues	8,242,354	8,058,761	102,064,724	100,217,278	1.8%
Expenses					
Power Expenses:					
547 Purchased Power Fuel	2,260,770	2,941,858	26,960,712	33,700,655	(20.0%)
555 Purchased Power Capacity	991,896	1,285,222	14,741,068	14,754,910	(0.1%)
565 Purchased Power Transmission	1,001,393	956,071	14,426,582	16,151,055	(10.7%)
Total Purchased Power	4,254,059	5,183,152	56,128,361	64,606,619	(13.1%)
Operations and Maintenance Expenses:					
580 Supervision and Engineering	134,761	120,621	1,489,688	1,176,831	26.6%
581 Station/Control Room Operators	47,864	79,700	676,991	549,799	23.1%
582 Station Technicians	59,057	84,903	1,149,611	607,477	89.2%
583 Line General Labor	172,065	80,651	1,009,937	788,574	28.1%
586 Meter General	20,514	23,220	190,705	220,475	(13.5%)
588 Materials Management	64,233	20,937	569,315	447,076	27.3%
593 Maintenance of Lines - Overhead	62,579	63,939	860,178	434,310	98.1%
593 Maintenance of Lines - Tree Trimming	546,763	332,058	1,409,480	1,008,002	39.8%
594 Maintenance of Lines - Underground	14,369	42,773	84,149	259,023	(67.5%)
595 Maintenance of Line - Transformers	8,481	36,769	101,668	231,738	(56.1%)
598 Line General Leave Time Labor	79,641	149,925	608,808	607,893	0.2%
Total Operations and Maintenance Expenses	2,010,108	1,835,456	15,030,300	6,331,199	28.7%
General & Administration Expenses:					
903 Customer Collections	111,334	118,561	1,385,498	1,177,530	17.7%
904 Uncollectible Accounts	15,809	(44,767)	52,476	10,233	412.8%
916 Energy Audit	118,109	83,595	917,199	821,117	11.7%
916 Energy Conservation	392,824	396,521	2,321,189	1,647,863	40.9%
920 Administrative and General Salaries	180,411	162,090	2,388,426	2,065,363	15.6%
921 Office Supplies and Expense	1,761	2,540	18,472	16,830	9.8%
923 Outside Services - Legal	28,909	80,079	355,290	530,575	(33.0%)
923 Outside Services - Contract	104,904	80,058	428,228	369,546	15.9%
923 Outside Services - Education	47,685	19,698	168,502	81,921	105.7%
924 Property Insurance	58,111	32,768	484,865	414,521	17.0%
925 Injuries and Damages	4,083	280	81,811	21,157	286.7%
926 Employee Pensions and Benefits	418,150	(2,120,329)	4,281,876	1,730,569	147.4%
930 Miscellaneous General Expense	116,720	146,948	488,535	532,743	(8.3%)
931 Rent Expense	6,605	10,002	211,393	212,367	(0.5%)
933 Vehicle Expenses	86,497	34,891	381,033	310,298	22.8%
933 Vehicle Expenses - Capital	(27,273)		(415,373)	(365,504)	13.6%
935 Maintenance of General Plant	45,508	48,567	693,495	566,879	22.3%
935 Maintenance of Building & Garage	119,175	132,058	860,855	1,004,613	(14.3%)
Total General & Administration Expenses	1,829,322	(816,439)	15,103,771	11,148,621	35.5%

PRE-AUDIT

Town of Reading, Massachusetts
Municipal Light Department
Business Type Proprietary Fund
Statement of Revenues, Expenses and Changes in Fund Net Assets
12/31/2023

	Month Current Year	Month Last Year	Year to Date Current Year	Year to Date Last Year	Percent Change
Other Operating Expenses:					
403 Depreciation	435,353	421,033	5,224,241	5,056,984	3.3%
408 Voluntary Payments to Towns	152,210	143,387	1,826,606	1,720,644	6.2%
Total Other Expenses	<u>587,564</u>	<u>564,419</u>	<u>7,050,847</u>	<u>6,777,628</u>	<u>4.0%</u>
Operating Income	361,082	2,092,132	15,631,214	11,353,211	37.7%
Non Operating Revenues (Expenses):					
419 Interest Income	160,008	60,274	959,522	300,617	219.2%
419 Other	476,016	94,252	971,947	798,972	21.6%
426 Return on Investment to Reading	(211,551)	(210,620)	(2,533,024)	(2,503,974)	1.2%
426 Loss on Disposal	(67,540)	(50,596)	(67,540)	(50,596)	33.5%
431 Interest Expense	(3,473)	20,417	(48,625)	(1,727)	2715.9%
Total Non Operating Revenues (Expenses)	<u>353,460</u>	<u>(86,274)</u>	<u>(717,720)</u>	<u>(1,456,708)</u>	<u>(50.7%)</u>
Change in Net Assets	714,542	2,005,858	14,913,494	9,896,503	50.7%
Net Assets at Beginning of Year	131,929,309	122,032,806	131,929,309	122,032,806	8.1%
Ending Net Assets	<u>\$ 132,643,851</u>	<u>\$ 124,038,664</u>	<u>\$ 146,842,803</u>	<u>\$ 131,929,309</u>	<u>11.3%</u>

Town of Reading, Massachusetts
Municipal Light Department
Business Type Proprietary Fund
Statement of Revenues, Expenses and Changes in Fund Net Assets Compared to Budget
12/31/2023

	Actual Year to Date	Budget Year to Date	OVER/UNDER \$	OVER/UNDER %
Operating Revenues				
Base Revenue	\$ 36,405,953	\$ 32,116,223	\$ 4,289,730	13.4%
Fuel Revenue	30,969,565	41,106,033	(10,136,468)	(24.7%)
Purchased Power Capacity & Transmission	32,568,572	34,515,988	(1,947,416)	(5.6%)
Forfeited Discounts	913,041	963,487	(50,445)	(5.2%)
Energy Conservation Revenue	2,427,092	2,001,000	426,092	21.3%
NYPA Credit	(1,219,499)	(1,162,000)	(57,499)	4.9%
Total Operating Revenues	102,064,724	109,540,730	(7,476,006)	(6.8%)
Expenses				
Power Expenses:				
555 Purchased Power Fuel	26,960,712	39,944,033	(12,983,321)	(32.5%)
555 Purchased Power Capacity	14,741,068	15,469,599	(728,531)	(4.7%)
565 Purchased Power Transmission	14,426,582	19,226,389	(4,799,807)	(25.0%)
Total Purchased Power	56,128,361	74,640,021	(18,511,659)	(24.8%)
Operations and Maintenance Expenses				
580 Supervision and Engineering	1,489,688	978,439	511,250	52.3%
581 Station/Control Room Operators	676,991	508,095	168,895	33.2%
582 Station Technicians	1,149,611	1,337,458	(187,847)	(14.0%)
583 Line General Labor	1,009,937	600,755	409,183	68.1%
586 Meter General	190,705	270,245	(79,540)	(29.4%)
588 Materials Management	569,315	588,589	(19,274)	(3.3%)
593 Maintenance of Lines - Overhead	860,178	568,743	291,434	51.2%
593 Maintenance of Lines - Tree Trimming	1,409,480	1,589,788	(180,307)	(11.3%)
594 Maintenance of Lines - Underground	84,149	194,974	(110,824)	(56.8%)
595 Maintenance of Line - Transformers	101,668	355,040	(253,371)	(71.4%)
598 Line General Leave Time Labor	608,808	215,963	392,844	181.9%
Total Operations and Maintenance Expenses	8,150,530	7,208,088	942,443	13.1%
General & Administration Expenses:				
903 Customer Collection	1,385,498	1,299,608	85,890	6.6%
904 Uncollectible Accounts	52,476	75,000	(22,524)	(30.0%)
916 Energy Audit	917,199	1,071,429	(154,230)	(14.4%)
916 Energy Conservation	2,321,189	3,064,243	(743,054)	(24.2%)
920 Administrative and General Salaries	2,388,426	3,224,132	(835,706)	(25.9%)
921 Office Supplies and Expense	18,472	20,000	(1,528)	(7.6%)
923 Outside Services - Legal	355,290	785,800	(430,510)	(54.8%)
923 Outside Services - Contract	428,228	740,100	(311,872)	(42.1%)
923 Outside Services - Education	168,502	329,150	(160,648)	(48.8%)
924 Property Insurance	484,865	541,550	(56,685)	(10.5%)
925 Injuries and Damages	81,811	25,600	56,211	219.6%
926 Employee Pensions and Benefits	4,281,876	4,568,626	(286,750)	(6.3%)
930 Miscellaneous General Expense	488,535	601,400	(112,865)	(18.8%)
931 Rent Expense	211,393	212,000	(607)	(0.3%)
933 Vehicle Expense	381,033	389,000	(7,967)	(2.0%)
933 Vehicle Expense - Capital Clearing	(415,373)	(510,268)	94,896	(18.6%)
935 Maintenance of General Plant	693,495	668,767	24,728	3.7%
935 Maintenance of Building & Garage	860,855	991,558	(130,703)	(13.2%)
Total General & Administration Expenses	15,103,771	18,097,695	(2,993,924)	(16.5%)

PRE-AUDIT

Town of Reading, Massachusetts
Municipal Light Department
Business Type Proprietary Fund
Statement of Revenues, Expenses and Changes in Fund Net Assets Compared to Budget
12/31/2023

	Actual Year to Date	Budget Year to Date	OVER/UNDER \$	OVER/UNDER %
Other Operating Expenses:				
403 Depreciation	5,224,241	5,445,000	(220,759)	(4.1%)
408 Voluntary Payments to Towns	1,826,606	1,772,440	54,166	3.1%
Total Other Expenses	<u>7,050,847</u>	<u>7,217,440</u>	<u>(35,447)</u>	<u>(0.5%)</u>
Operating Income	15,631,214	2,377,487	13,122,581	552.0%
Non Operating Revenues (Expenses):				
415 Contribution in Aid of Construction	-	50,000	(50,000)	(100.0%)
419 Interest Income	959,522	300,000	659,522	219.8%
419 Other Income	971,947	710,000	261,947	36.9%
421 Intergovernmental Grants		90,000	(90,000)	(100.0%)
426 Return on Investment to Reading	(2,533,024)	(2,548,972)	15,948	(0.6%)
426 Loss on Disposal	(67,540)	(10,000)	(57,540)	575.4%
431 Interest Expense	(48,625)	(10,000)	(38,625)	386.2%
Total Non Operating Revenues (Expenses)	<u>(717,720)</u>	<u>(1,418,972)</u>	<u>701,252</u>	<u>(49.4%)</u>
Net Income	<u>\$ 14,913,494</u>	<u>\$ 958,515</u>	<u>\$ 13,954,979</u>	<u>1455.9%</u>

PRE-AUDIT FINANCIALS are exclusive of audit year end entries

Typical year end entries include:

Adjustments to OPEB and PENSION liabilities as calculated by Marcum using the most current actuarials.

These adjustments can have a significant impact of the bottom line since the GL general benefits is adjusted in the G&A section of the P&L

In 2022, the pension adjustments decreased the general benefits expense total by over \$2MM

In 2022 the OPEB adjustment decreased the general benefits expense by \$286K

Other anticipated adjustments will be the implementation of GASB 96, which is a change to the way SBITA (Subscription Based Info Tech Arrangement) is accounted for. It is anticipated that these entries will only affect the Balance Sheet, not the P&L.

There may be adjustments to the lease receivable for the update of GASB 87. It is anticipated that these entries will only affect the Balance Sheet, not the P&L.