RMLD

READING MUNICIPAL LIGHT DEPARTMENT

CITIZENS' ADVISORY BOARD REGULAR SESSION MEETING

THURSDAY MARCH 21, 2024

Town of Reading
Meeting Posting with Agenda

Board - Committee - Commission - Council:

RMLD Citizens Advisory Board

Date: 2024-03-21 Time: 6:30 PM

Building: Reading Municipal Light Building Location: Winfred Spurr Audio Visual Room

Address: 230 Ash Street Agenda:

Purpose: General Business

Meeting Called By: Vivek Soni, 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.

THIS MEETING WILL HELD IN PERSON AND REMOTELY ON ZOOM. FOR REMOTE AND/ 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.

Join Zoom Meeting
https://rmld.zoom.us/j/86900260203?from=addon

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1. Call Meeting to Order – V. Soni, Chair

2. Approval of Citizens' Advisory Board Meeting Minutes (attachment 1) – V. Soni Chair

   Suggested Motion: Move that the RMLD Citizens' Advisory Board approve the November 15, 2023, open session meeting minutes, as presented, on the

recommendation of the General Manager and the Board Secretary.

3. Update on Release of Executive Session Minutes – J. Small

4. Long Duration Energy Storage (attachment 2) – B. Bullock, Director of IRD and S. Simmons, Form Energy
   Suggested Motion: Motion that the RMLD Citizens' Advisory Board recommend that the Board of Commissioners vote to accept the General Manager's recommendation to enter into negotiations with Form Energy for a long duration energy storage system, with final contract approval under a separate and subsequent motion.

5. In-Territory Generation Options Study Results (attachment 3) – J. Wiley, Veolia

6. Carbon Quest Site Visit Report (attachment 4) – B. Bullock, Director of IRD

7. Capital Budget Increase for In-Territory Generation (attachment 5) – G. Phipps, General Manager

   Suggested Motion: Move that the RMLD Citizens' Advisory Board 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 a potential in-territory generation project, specifically a 20 MW carbon capture fuel cell generation system that is currently under evaluation by RMLD and third party advisors, for commissioning within the next 5 years.

8. General Manager's Report (attachment 6) – G. Phipps, General Manager

9. Scheduling – V. Soni Chair

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

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	Small
Thursday May 23, 2024	7:30 PM	RMLD AV Room	Kelley
Thursday June 27, 2024	7:30 PM	RMLD AV Room	Soni

10 Executive Session - V. Soni, Chair

Suggested Motion: Move that the RMLD Citizens' Advisory Board 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.

10. Adjournment **ACTION ITEM**
    Suggested Motion: Move that the Citizens' Advisory Board adjourn regular session. Note: Roll call vote required.

    BOARD MATERIALS AVAILABLE BUT NOT DISCUSSED
    December 2023 Preliminary Financials

ATTACHMENT 1
APPROVAL OF MEETING MINUTES

Town of Reading
Meeting Minutes

Board - Committee - Commission - Council:

RMLD Citizens Advisory Board

Date: 2023-11-15	Time: 5:30 PM
Building: Reading Municipal Light Building	Location: Winfred Spurr Audio Visual Room
Address: 230 Ash Street	Session: Open Session
Purpose: General Business	Version: Draft

Attendees: **Members - Present:**

Vivek Soni, Chair (Reading); Ken Welter, Vice Chair (Lynnfield); Jason Small, Secretary (North Reading); Dennis Kelley (Wilmington).

Members - Not Present:

Others Present:

RMLD Staff: Gregory Phipps, General Manager; Erica Morse, Executive Assistant, Bill Bullock, Director of Integraded Resources; Benjamin Bloomenthal, Director of Finance & Accounting.

Board of Commissioners Representative: David Talbot

Minutes Respectfully Submitted By: Vivek Soni, Chair

Topics of Discussion:

Call Meeting to Order

Chair Soni called the RMLD Citizens' Advisory Board (CAB) meeting to order at 5:30 PM and announced that the meeting would be held in person, remotely on Zoom, and recorded.

Commissioner Talbot arrived at 5:33 PM.

Approval of Citizens' Advisory Board Meeting Minutes

Materials: Draft Meeting Minutes (CAB Packet, attachment 1)

The June 15, 2023, minutes were tabled to a future meeting. The March 23,2023, and April 13, 2023, meeting minutes were approved as presented.

Vice Chair Welter made a **motion**, seconded by Mr. Kelley, that the RMLD Citizens' Advisory Board approve the March 23,2023, and April 13, 2023, open session meeting minutes, as presented, on the recommendation of the General Manager and the Board Secretary. **Motion Carried: 4:0:0** (4 in favor) *Roll Call Vote: Chair Soni, Aye; Vice Chair Welter, Aye; Mr. Kelley, Aye; Mr. Small, Aye.)*

2024 Operating Budget Presentation

Materials: Operating Budget Presentation (CAB Packet, attachment 2)

Mr. Bloomenthal discussed the 2024 operating budget tree crew proposal.

Budget Presentation Recap

Mr. Bloomenthal noted that the 2024 operating budget proposed at the October 25, 2023, meeting included plans for an internal tree crew.

The BoC requested additional scenarios to compare the operational and financial implications between internal, external, and hybrid tree maintenance approaches.

Vice Chair Welter clarified that the initial budget proposal was for an internal tree crew.

Chair Soni provided context, noting that the entire operating budget had been presented and discussed, but the focus now is solely on the tree maintenance aspect due to the request for further analysis.

The intent is to clarify the tree maintenance strategy and proceed with overall budget approval.

Current Status of Tree Maintenance (slide 2)
Mr. Bloomenthal discussed the status of tree maintenance.

Vegetation Management Challenges
Mr. Bloomenthal provided a background on the current state of vegetation management, highlighting a significant backlog of over 100 trees requiring maintenance, with Reading presenting the largest challenge due to its approval process for tree trimming.

Backlog and Maintenance Delays
Mr. Bloomenthal emphasized that the backlog continues to grow, particularly in Reading, due to the town's stringent approval processes.

Vice Chair Welter noted that the backlog has been consistent over the years.

Mr. Phipps noted that that while there has been good progress in other towns like North Reading and Wilmington, Reading is about five years behind in required tree trimming, not tree cutting, just regular limb maintenance.

Tree Trimming Requests
Vice Chair Welter inquired about the source of tree trimming requests.

The conversation noted that tree trimming requests come from various sources, including homeowners, the town, and RMLD's own line crews.

Mr. Phipps emphasized that the primary goal is to prevent outages by managing tree growth around power lines.

Town Approval Process and Impact on Backlog
Mr. Small asked if the backlog is due to the Town not allowing tree trimming or a lack of resources.

Mr. Phipps confirmed that the issue is more the Town not allowing tree trimming and a slow approval process rather than a lack of resources.

Safety and Proactive Measures
Mr. Phipps highlighted the safety hazards posed by delayed tree maintenance and mentioned proactive measures being taken to address these concerns.

RMLD is also learning from experiences in other regions like Hawaii and California.

Escalating the Issue
Chair Soni asked if RMLD has tried escalating the issue within the town or with the BoC to address the backlog more effectively.

Mr. Phipps indicated that efforts to escalate the matter are already underway.

Internal vs. External Tree Crews
In response to an inquiry by Chair Soni, Mr. Phipps confirmed that the town's approval process has similar effects on both employing internal vs. external tree crews.

Three Scenarios (slide 3)
Mr. Bloomenthal provided an overview of three tree maintenance scenarios that were considered in response to the BoC's request for additional options regarding the operating budget's tree maintenance component.

Internal Tree Crew
Mr. Bloomenthal discussed the first scenario, initially presented on October 25th, which involves hiring an internal tree crew to handle all tree maintenance tasks.

Hybrid Tree Crew Structure
Mr. Bloomenthal discussed the second scenario, a hybrid approach, where one tree crew is internal, and another crew would be sourced from an external contractor. This model aims to leverage the strengths of both internal and external resources.

Restructuring External Contracts
Mr. Bloomenthal discussed the third scenario, which explores the possibility of restructuring the contract for external tree maintenance services, as the current contract expires at the end of June 2024. The focus would be on optimizing terms and conditions to better meet RMLD's needs.

Scenario 1 – Transition to Internal Tree Crew (slide 4)
Mr. Bloomenthal discussed the internal tree crew proposal, which includes hiring a certified arborist and four staff members, resulting in significant annual savings and long-term cost reductions.

Proposal
Mr. Bloomenthal explained that RMLD would introduce an internal tree crew including a certified arborist as the manager and four staff members and organized into two 2-person crews. This setup also includes acquiring necessary equipment over several years.

Financial Impact
Mr. Bloomenthal highlighted an anticipated savings of ~ $1m annually for the 2025 and 2026 budgets, due to salary positions over prevailing wage costs, and the provision of additional capital equipment like a bucket truck.

Context
Mr. Bloomenthal noted that prevailing wage costs increased by 124% from 2018 to 2021, primarily due to regulatory changes.

Scenario 2 – Hybrid (Mixed Outsourced & Internal) Crew (slide 5)
Mr. Bloomenthal discussed the Hybrid proposal, which includes a new tree contract for July 2024 with a mix of internal and external crews, aiming for flexibility and cost savings.

Proposal
Mr. Bloomenthal explained that a new tree contract starting July 2024 would introduce a hybrid model with one internal 2-person tree crew managed by a certified arborist and an external tree crew.

Financial Impact
Mr. Bloomenthal highlighted an expected savings of about $500K annually for 2024 and 2025, by reducing exposure to prevailing wage costs and offering flexibility to bring on extra external crews during emergencies.

Operational Benefits
Mr. Bloomenthal noted that this scenario provides additional equipment for staff and flexibility in managing workloads during states of emergency**.**

Scenario 3 – Outsourced Tree Crew (slide 6)
Mr. Bloomenthal discussed the outsourced tree crew proposal, which includes restructuring the contract to a daily rate basis for better cost management and operational efficiency in addressing tree maintenance backlogs.

Proposal
Mr. Bloomenthal explained that RMLD would continue with a fully outsourced model but restructure the contract from a span basis to a daily rate basis to improve cost efficiency and operational flexibility.

Operational Changes
Mr. Bloomenthal noted that change would prevent charges based on the removal of small branches (span basis), enable crews to work on specific high-voltage jobs and address backlogs in both three-phase and single-phase distribution lines in residential areas.

Discussion on Span Basis
Chair Soni sought clarification on the span basis.

Mr. Bloomenthal explained that this relates to charging per entire tree or per branch cut and was intended to incentivize contractors but is now considered less effective than a daily rate basis.

Total Budget Impact – CY 24 (slide 7)
Mr. Bloomenthal presented the proposed budgets for three scenarios regarding the tree maintenance strategy for RMLD and highlighted the financial outcomes for each scenario, focusing on the overall net income implication.

Scenario One - Internal Tree Crew
Mr. Bloomenthal emphasized that the proposed budget for creating an internal tree crew shows a projected net income of $8.5m. This scenario is aimed at reducing overall operational costs by managing prevailing wage costs more effectively.

Scenario Three - Outsourced Tree Crew
Mr. Bloomenthal emphasized that continuing with an outsourced tree crew leads to a projected net income of $8.2m. The slight decrease in net income is attributed to increased contract costs while attempting to maintain a smaller workforce size.

Cost Drivers and Financial Analysis
Mr. Bloomenthal emphasized that prevailing wage costs have been a significant factor in increasing contract expenses over the years. The analysis indicates that an internal tree crew could offer a more cost-effective solution by addressing these wage cost issues.

Projected Financial Impact (slide 8)
Mr. Bloomenthal outlined the costs and savings across scenarios for internal, hybrid, and outsourced tree maintenance crews for the coming years.

Scenario 1 (Internal Tree Crew)
Mr. Bloomenthal noted a projected total cost of $1.86m for Calendar Year 24, with an increase in expenses by $155K due to capital outlays voted on previously. Expected reductions in total costs to $730K in the subsequent years, with significant savings.

Scenario 2 (Hybrid Internal and External Tree Crew)
Mr. Bloomenthal noted a total cost is $1.9m, with an increase of $217K in expenses for the initial year. Costs are anticipated to decrease to $1.3m, showing substantial savings.

Scenario 3 (Outsourced Tree Crew)
Mr. Bloomenthal discussed the operational strategy and contract restructuring of the outsourced model.

Clarification on Financials
Chair Soni pointed out a perceived discrepancy between increased expenses and net income growth.

Mr. Bloomenthal clarified the financial projections and the inclusion of capital outlays in the analysis.

Mr. Bloomenthal discussed the implications of each scenario on operational efficiency, with considerations for emergency and storm-related work, scheduled maintenance, and the potential for adopting a hybrid model.

Adoption of Scenario 3 for CY 24
The CAB agreed to proceed with an outsourced tree maintenance strategy for the next calendar year, acknowledging the need for a thorough bid process and further analysis.

Mr. Bloomenthal committed to a detailed review of operational and financial data in 2024 to inform future strategy on tree maintenance.

Chair Soni made a **motion**, seconded by Mr. Small, that the Citizens' Advisory Board, on the recommendation of the General Manager, recommend to the RMLD Board of Commissioners the Calendar Year 2024 Operating Budget as presented, which is the proposed scenario 3, outsourced tree crew for CY 2024. **Motion Carried: 4:0:0** (4 in favor) *Roll Call Vote: Chair Soni, Aye; Vice Chair Welter, Aye; Mr. Kelley, Aye; Mr. Small, Aye.)*

Integrated Resources Department Report
Materials: IRD Report (CAB Packet, attachment 3)

Mr. Bullock presented the IRD report to the CAB.

Outline (slide 2)
Mr. Bullock introduced the IRD report, covering power supply outlook, load forecast, power supply costs, handling of certificates, and future rate breakdowns.

Load Forecast (slide 3)
Mr. Bullock outlined the expected load forecast through 2044, emphasizing an anticipated increase due to the adoption of electric vehicles and heat pumps.

Power Supply Portfolio
Mr. Bullock highlighted the current energy mix and noted sufficient hedging with non-carbon power sources in the earlier years.

Mr. Bullock discussed future power supply portfolio adjustments to maintain supply and comply with net-zero targets.

Mr. Bullock emphasized the need for continuous sourcing through 2044 and noted that some contracts may expire, necessitating renewal or finding new resources.

Solar
Mr. Bullock highlighted the addition of solar power expected in 2025 from the Gravel Pit project, which will significantly boost solar energy supply.

Compliance and Certificates
Mr. Bullock referenced the black compliance line on the graph, demonstrating a smooth curve towards gradually achieving net-zero targets.

Mr. Bullock highlighted RMLD's strategy to gradually increase the certificate retirement rate by 3% per year to minimize rate impacts and noted plans to incorporate in-territory generation to close existing supply gaps.

Forward Price Curve – Monthly Through 2028 (slide 4)

Forward Price Curve Analysis (2020-2028)

Mr. Bullock presented the forward price curve, highlighting volatility, especially in winter, due to natural gas scarcity.

Mr. Bullock emphasized the success in hedging against market volatility, noting that about 90% of the power supply is hedged. This offers significant protection against price spikes.

Discussion on Natural Gas Impact

Chair Soni raised a question about the impact of natural gas pricing and the expectation around the Mystic LNG terminal's role in pricing.

Mr. Phipps acknowledged the uncertainty in the market, emphasizing the importance of hedging and long-term contracts.

Power Supply (slide 5)

Portfolio Performance and Strategy

Mr. Bullock detailed the Power Supply portfolio's performance, with a historical track record of keeping contracted prices below open market prices, except for a brief period during the COVID-19 pandemic.

Mr. Bullock discussed the portfolio's composition, including nuclear, wind, solar, and hydro, and plans for incorporating more non-carbon resources, with a focus on the potential impact of offshore wind on costs.

Nuclear Energy and Future Contracts

Mr. Bullock disused the low cost and significant role of nuclear energy in the portfolio.

Mr. Bullock noted that contracts for nuclear energy extend through 2050, and highlighted the potential for future energy source developments, such as a nuclear fusion reactor.

Certificate Management (slide 6)

Q1 2023 Update

Mr. Bullock provided an update on the latest quarter (Q1 2023) renewable energy certificates (RECs).

Mr. Bullock highlighted the acquisition of ~92K certificates, retirement of ~50%, sale of 80% of the remaining balance, and reservation of 20% for future compliance needs.

Mr. Bullock outlined RMLD's certificate management strategy. The current retirement rate stands at 29% of the total energy portfolio, reflecting RMLD's commitment to non-carbon energy, with plans to increase this rate by 3% annually to reach 50% compliance by 2030.

Greenhouse Gas Reporting

Chair Soni inquired about the monitoring of RMLD's carbon footprint.
Mr. Phipps discussed the ongoing evaluation of the carbon footprint, highlighting the recent submission of the AQ 31 report.

Policy 30 Review

Mr. Phipps noted that Policy 30, which guides reporting and REC management strategy, will be reviewed with the BoC and CAB at the December meeting. This review will include a discussion on potential adjustments to certificate retirement strategies.

2024 Rates – Residential A example (slide 7) Residential C example (slide 8)

2024 Rate Change Overview
Mr. Phipps discussed the 2024 rate changes, providing clarity and breaking down the components of the rate increase approved in the last meeting.

Mr. Phipps confirmed that the 2024 rates are set to take effect in March 2024.

Mr. Phipps referenced two examples to illustrate the components of the rate increase. An average monthly bill was analyzed, showing a base rate increase and the power supply cost as a pass-through cost.

Mr. Phipps highlighted the difference between the base rate increase and the pass-through costs related to power supply.

Billing Components and Strategy
Mr. Phipps discussed the current structure of the RMLD unbundled bill and the potential future simplification tied to metering system upgrades.

Mr. Phipps emphasized that the approved rate changes, effective in March 2024, are part of a broader strategy to manage costs and customer bills amidst market volatility.

Mr. Phipps detailed the fixed components of the monthly bills and the variable power supply cost, reiterating the goal to minimize customer impact from market volatility.

Rate By Class
Mr. Phipps explained the varying percentage increases across different rate classes.

Mr. Phipps highlighted key components of individual rate classes, including customer charge, distribution energy, and distribution demand.

Public Messaging and Communication
Chair Soni emphasized the importance of clear public messaging about the overall impact on customer bills.

Mr. Phipps acknowledged past discrepancies between projections and actual increases, primarily due to dynamic power supply costs.

Mr. Phipps noted that a detailed public presentation will be made in January, followed by the official rate filing.

Context – Within Territory Generation (slide 9)
Mr. Phipps discussed the continued pursuit of in-territory generation as a strategic move for RMLD and emphasized its alignment with economic benefits, increased reliability, and compliance with climate legislation (2021 climate bill).

Carbon Capture Fuel Cell – output (slide 10)
Mr. Phipps highlighted a potential 20 MW carbon capture fuel cell project with Bloom Energy, as a pathway to meet RMLD's objectives.

Operational Impacts and Environmental Benefits
Mr. Phipps discussed the operational and environmental impacts of adopting carbon capture fuel cell technology, including the generation of electricity, water, and CO2 emissions.

Mr. Phipps explained the fuel cell system's output, including electricity, water (H2O), and CO2 emissions.

Mr. Phipps emphasized that the carbon capture system is expected to sequester about 92% of CO2 emissions and highlighted the potential of converting CO2 into a revenue stream.

Carbon Capture Fuel Cell – CO2 (side 11)
Mr. Phipps reviewed the operating and life cycle emissions data and highlighted significant reductions in net carbon emissions compared to traditional power sources.

Mr. Phipps explained the proposed system's role as a base load generator, not a peaking system, with substantial operational hours planned.

Mr. Phipps emphasized that the technology is seen as a bridge in the transition to low-cost, reliable, non-carbon energy.

Fuel Cell Technology Discussion
Bloom Energy and Fuel Cell Technology
Vice Chair Welter noted previous discussions with Bloom Energy representatives regarding fuel cell technology.

Mr. Phipps discussed the potential acquisition of fuel cell technology from Bloom Energy and emphasized the shift towards in-territory generation for economic, reliability, and environmental compliance reasons.

Mr. Phipps described Bloom as a significant supplier in the fuel cell market and outlined the economic rationale behind considering a purchase agreement for the technology, which includes leveraging tax credits from recent IRA22 legislation.

Operational Considerations
Mr. Phipps discussed the responsibilities associated with owning the fuel cell technology, including CO2 management, natural gas contracts, and subcontracting maintenance.

Environmental Implications
Chair Soni raised concerns about the environmental implications of using natural gas, specifically the reporting and impact of Scope 3 emissions, which include emissions from natural gas extraction and transmission.

Third-Party Assessment and Alternative Solutions
Chair Soni mentioned a third-party evaluation of the generation technology including fuel cell technology.

The need for exploring alternative in-territory generation options such as hydrogen and solar PV was emphasized.

Commissioner Talbot inquired about issuing an RFP to identify the best options for in-territory generation, solutions for reducing peak demand, and meeting carbon metrics cost-effectively.

Mr. Phipps agreed the importance of caution and thorough evaluation in pursuing new technologies for in-territory generation.

Milton Cat Mobile Battery Presentation
Materials: Milton Cat Battery Proposal (CAB Packet, attachment 4)

Mr. Bullock presented the Milton Cat Battery opportunity to the CAB.

Milton Cat Mobile Battery (side 1)

Proposal Overview
Mr. Bullock discussed Milton CAT's proposal to install a mobile lithium-ion battery and emphasized its potential for peak shaving and flexibility due to its mobility.

Project Details
Mr. Bullock highlighted that the proposed battery system is 500 kW with two hours of

duration is designed to be shared with RMLD to demonstrate its benefits, particularly for peak shaving.

Mr. Bullock noted that the project is expected to be located at Station 2 but can be relocated as needed.

Mr. Bullock emphasized that the mobile nature of the battery allows for flexibility in location, potentially supporting areas with insufficient power capacity during peak times.

Economic and Operational Considerations
Mr. Bullock explained that the project has an estimated net present value of $100K and promises $35K a year in benefits, with total net benefits of around $110K over three years.

Mr. Bullock highlighted that mobility feature allows for deployment in areas requiring temporary support during peak demand.

Context and RFP Background
Mr. Bullock noted that despite not winning a prior RFP issued by RMLD, Milton CAT approached RMLD with this proposal, distinguishing it from responses to the original RFP, which focused on larger-scale projects.

Mr. Bullock discussed this proposal in the context of RMLD's broader energy storage strategies and acknowledged its potential as a learning opportunity and a temporary support solution during peak demand periods.

Evaluation and Discussion
Mr. Bullock emphasized the importance of evaluating such innovative solutions within RMLD's ongoing efforts to integrate storage solutions and enhance grid reliability.

The project's potential benefits, its role in learning about storage solutions, and the importance of flexibility in addressing temporary capacity issues was discussed.

Chair Soni and Mr. Kelley raised concerns regarding the environmental and operational implications of using natural gas, along with the importance of third-party assessments, and the value of storage solutions.

Chair Soni made a **motion**, seconded by Vice Chair Welter, that the Citizen's Advisory Board recommend that the Board of Commissioners vote to accept the General Manager's recommendation to contract with Milton Cat under an Energy Services Agreement for battery storage services. **Motion Carried: 4:0:0** (4 in favor) *Roll Call Vote: Chair Soni, Aye; Vice Chair Welter, Aye; Mr. Kelley, Aye; Mr. Small, Aye.)*

General Manager's Report
Materials: GM Report Presentati0on (CAB Packet, attachment 4)

People Operations (slide 2)
Team Morale and Engagement
Mr. Phipps provided an update on the team's morale, emphasizing that the staff remains positive, engaged, and energized.
Mr. Phipps highlighted the team's dedication and motivation.

Internal Moves and Promotions
Mr. Phipps highlighted efforts in internal development, noting that over the past year, the organization facilitated four internal moves and awarded four internal promotions.

Mr. Phipps noted that this demonstrates a commitment to team development and career progression within the company.

Internship Program
Mr. Phipps highlighted RMLD's commitment to talent development, noting the success of the internship program which increased from three to seven summer interns compared to the previous year.

Mr. Phipps noted that interns bring value to the organization through learning opportunities, spreading positive word-of-mouth about the utility sector on campuses, and contributing valuable analysis work.

Open Positions and Recruitment
Mr. Phipps mentioned there are currently six open positions, including critical director-level roles in operations, engineering, and the newly introduced data analytics.

Mr. Phipps noted that efforts to fill these positions are ongoing, with interviews for the Director of Engineering position scheduled.

Mr. Phipps highlighted that RMLD is actively recruiting to strengthen its team. This approach underscores the foundational belief that the organization's success is built on its people, alongside a strategic focus on data management to meet future challenges.

Director of Data Analytics
Mr. Phipps noted that a new position, Director of Data Analytics, has been introduced to address the increasing need for data management and analytics within the organization.

More Highlights (slide 3)
Mr. Phipps provided an update on several key initiatives and strategic projects.

Upcoming Presentations
Mr. Phipps discussed RMLD's upcoming presentations to the Lynnfield and Reading Select Boards to address new battery and solar projects.

Mr. Phipps noted that this reflects significant interactions with local governance to highlight strategic initiatives and project updates.

Lynnfield Battery and Solar Project
Mr. Phipps outlined a new battery project, in conjunction with a water treatment plant on Glenn St, and associated solar installations in Lynnfield.

This initiative represents a strategic move towards owned assets and renewable energy integration.

Maple Meadows
Mr. Phipps provided an update on the Maple Meadows Project and expressed optimism for progress, despite past delays.

RMLD ASH Street Campus (slide 4)

Ash Street Campus
Mr. Phipps reiterated the need for a major refurbishment of the operations building at 218 Ash Street, continuing a longstanding discussion with the Town of Reading about campus improvements and potential relocations.

Mr. Phipps discussed the likelihood of remaining on the current campus and highlighted future investment needs.

Property Acquisition Discussions
Mr. Phipps noted that initial discussions with neighboring property owners have shown openness to options for possible sales or campus reconfiguration.

This marks a shift from previous disinterest and setting the stage for long-term planning.

Community Planning Grant
Mr. Phipps emphasized that the town of Reading's acquisition of a community planning grant will aid in reimagining the utility's campus. This marks a pivotal development in future planning efforts.

Mr. Phipps highlighted RMLD's proactive approach to infrastructure development, community engagement, and strategic planning, emphasizing a commitment to sustainability and operational excellence over the coming years.

Scheduling
The next CAB meeting will be held on December 12, 2023.

Adjournment
The CAB meeting was adjourned at 6:50 PM.

Vice Chair Welter made a **motion**, seconded by Chair Soni, that the RMLD Citizens' Advisory Board adjourn regular session. **Motion Carried: 4:0:0** (4 in favor) *Roll Call Vote: Chair Soni, Aye; Vice Chair Welter, Aye; Mr. Kelley, Aye; Mr. Small, Aye.)*

ATTACHMENT 2

LONG DURATION ENERGY STORAGE

BREAKTHROUGH LOW-COST, MULTI-DAY ENERGY STORAGE

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

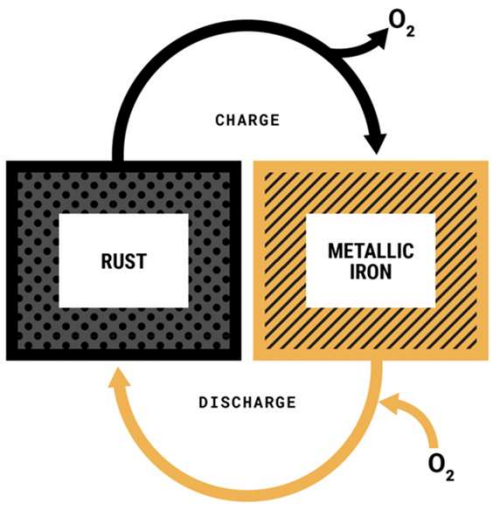
Form energy

Energy Storage
For A Better World

1

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.

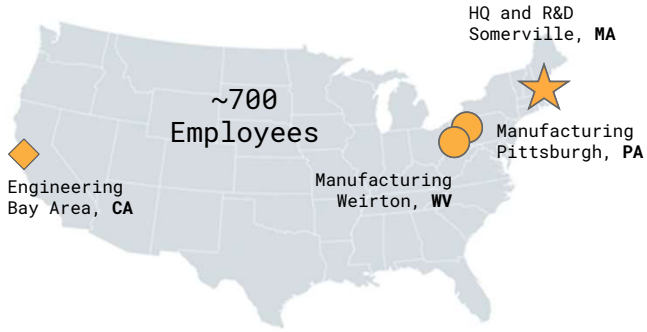
SCALE

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.

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

TESLA ENERGY

A123 SYSTEMS

SUNPOWER FROM MAXEON SOLAR TECHNOLOGIES

24M

NEXTera ENERGY

amsc

Massachusetts Institute of Technology

AQUION ENERGY

3

Accelerating progress towards a decarbonized grid

2017

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

2018

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

2019

- Key iron-air cell performance proof points demonstrated at laboratory scale (~100 cm^2)

2020

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

2021

- $240M Series D, led by ArcelorMittal
- First module (>1m^3) on test
- First production scale electrode from pilot mfg. facility

ArcelorMittal

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

TPG RISE CLIMATE

2023

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

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

5

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

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

Thank you!

Form energy

Multi-Day Storage (MDS) Form Energy

21 March 2024

RMLD

Reading Municipal Light Department
RELIABLE POWER

1

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.

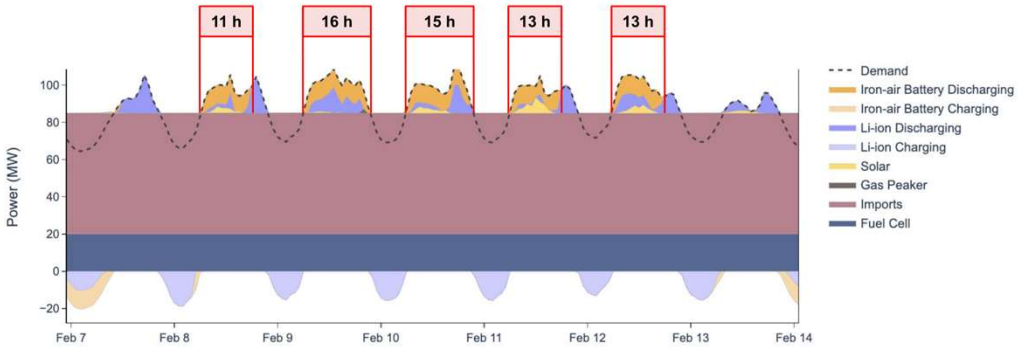
- Peak reduction to manage increasing transmission and capacity costs
- Interday energy price arbitrage to help mitigate price volatility, especially with increasing mix of intermittent renewable resources.
- MDS can limit impact of possible ISO NE mandatory load reductions

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

2

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.

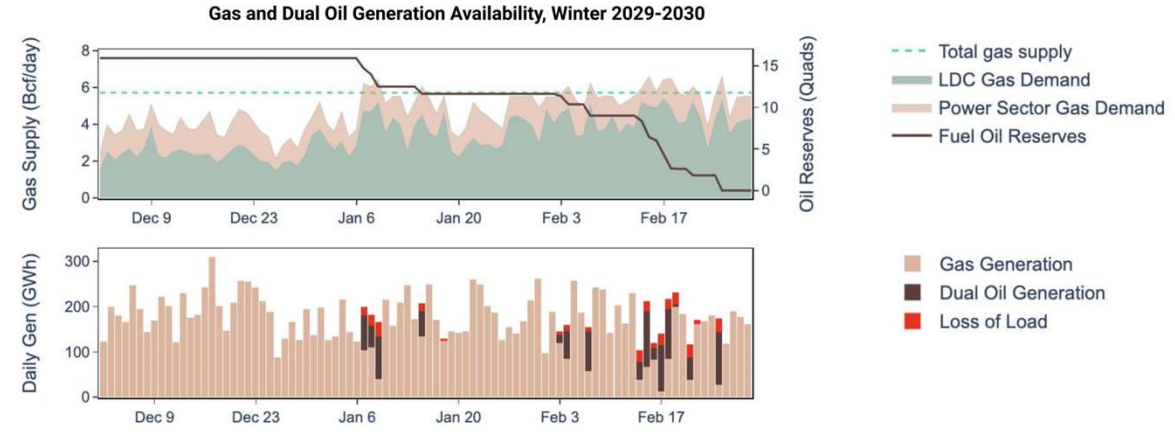


3

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

3

MDS as a Winter Reliability Resource



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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

5

5

Thank You
from the RMLD Team

RMLD

Reading Municipal Light Department
RELIABLE POWER

ATTACHMENT 3

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

1

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

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	$.01	$.01	$.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)*

3

Thank You

ATTACHMENT 4

CARBON QUEST SITE VISIT REPORT

Carbon Quest Phase 1 Due Diligence Trip Report

21 March 2024

RMLD

Reading Municipal Light Department
RELIABLE POWER

1

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



2

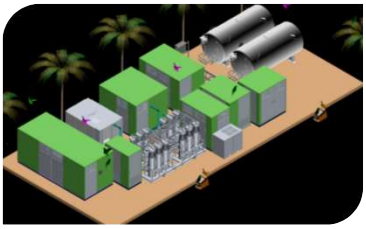
Applicability to RMLD

- 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

3

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



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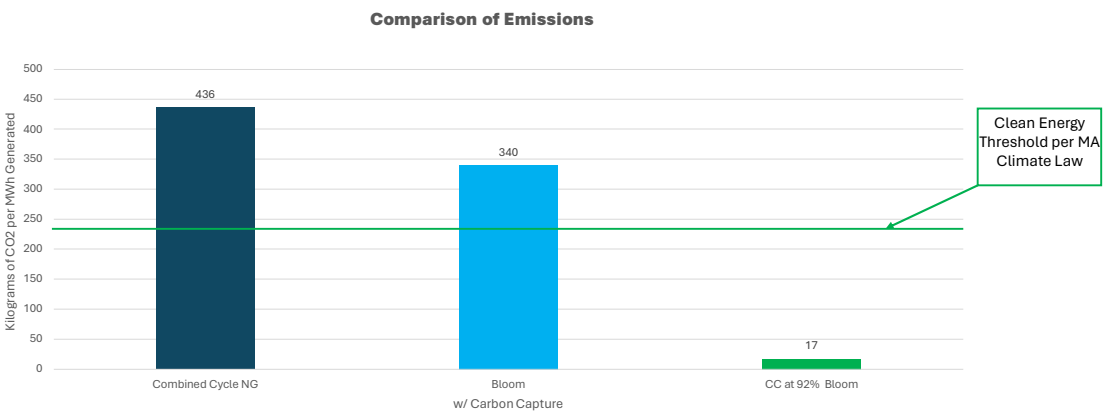
Thank You
from the RMLD Team

RMLD

Reading Municipal Light Department
RELIABLE POWER

5

Carbon Comparison



RMLD Reading Municipal Light Department RELIABLE POWER

6

ATTACHMENT 5

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

1

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

 source: Cost Comparison CCFC 2024-03-19 ***budget motion***

Several new capital projects materializing

project	decription	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 H20 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 6

GENERAL MANAGER'S REPORT

MATERIALS AVAILABLE
BUT NOT DISCUSSED

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**
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 Expenes:					
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	[illegible]	[illegible]	[illegible]	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%

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	587,564	564,419	7,050,847	6,777,628	4.0%
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)	353,460	(86,274)	(717,720)	(1,456,708)	(50.7%)
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	$ 132,643,851	$ 124,038,664	$ 146,842,803	$ 131,929,309	11.3%

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%)

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	7,050,847	7,217,440	(35,447)	(0.5%)
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)	(717,720)	(1,418,972)	701,252	(49.4%)
Net Income	$ 14,913,494	$ 958,515	$ 13,954,979	1455.9%

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 Arrangment) is accounted for.
It is anticipated that these entries will only affect the Balance Sheet, not the P&L.

There may be adjsutments 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.