



RMILD

**READING MUNICIPAL
LIGHT DEPARTMENT**

**BOARD OF COMMISSIONERS
REGULAR SESSION MEETING**

WEDNESDAY JANUARY 31, 2024



Town of Reading Meeting Posting with Agenda

Board - Committee - Commission - Council:

RMLD Board of Commissioners

Date: 2023-01-31

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: 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.

THIS MEETING WILL HELD IN PERSON, REMOTELY ON ZOOM, AND STREAMED LIVE ON RCTV & YOUTUBE: <https://www.youtube.com/c/RCTVStudios/videos?view=57>.

FOR REMOTE AND/OR PUBLIC PARTICIPATION: Please email rmldevents@rml.com. Please include your full name, address, and phone number. Comments and questions will be monitored during the meeting.

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Town of Reading Meeting Posting with Agenda

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

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 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. Approval of Board of Commissioners Meeting Minutes (attachment 1) – P. Pacino, Chair

Suggested Motion: Move that the RMLD Board of Commissioners approve the September 28, 2023, open session meeting minutes, as presented, on the recommendation of the General Manager and the Board Secretary.

4. Policy Review (attachment 2) – G. Phipps, General Manager

Policy 30: Renewable And Greenhouse Gas (GHG) Reduction Regarding Power Supply Procurement

Suggested Motion: Move that the RMLD Board of Commissioners approve Policy 30: Renewable and Greenhouse Gas (GHG) Reduction Regarding Power Supply Procurement (Revision 2), as presented, on the recommendation of the General Manager.

5. RMLD Rates Update (attachment 3) – B. Bullock, Director of Integrated Resources
6. Certificate Management (attachment 4) – B. Bullock, Director of Integrated Resources

Suggested Motion: Move that the RMLD Board of Commissioners, contingent on the recommendation of the Citizens’ Advisory Board, approve the 2024 annual certificate retirement rate, as presented, on the recommendation of the General Manager.

7. In Territory Generation Road Map (attachment 5) - G. Phipps, General Manager
8. General Manager 2024 Goals (attachment 6) – G. Phipps, General Manager
9. General Manager’s Report (attachment 7) – G. Phipps, General Manager

10. Scheduling – P. Pacino, Chair

2024 Warrant Schedule

	AP	PAYROLL	CAB Coverage
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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

January	Daskalakis	Coulter	Daskalakis
February	Bitá	Talbot	Pacino
March	Coulter	Pacino	Bitá
April	Talbot	Daskalakis	Coulter
May	Pacino	Bitá	Talbot
June	Daskalakis	Coulter	Pacino
July	Bitá	Talbot	Daskalakis
August	Coulter	Pacino	Bitá
September	Talbot	Daskalakis	Coulter
October	Pacino	Bitá	Talbot
November	Daskalakis	Coulter	Pacino
December	Bitá	Talbot	Daskalakis

BOARD OF COMMISSIONERS MEETING SCHEDULE

Date	Time	Location	CAB Coverage
Wednesday January 31, 2024	6:30 PM	RMLD AV Room	Welter
Wednesday February 28, 2024	6:30 PM	RMLD AV Room	Small
Wednesday March 27, 2024	6:30 PM	RMLD AV Room	Kelley

CITIZENS' ADVISORY BOARD MEETING SCHEDULE

Date	Time	Location	BoC Coverage
Thursday February 1, 2024	6:30 PM	RMLD AV Room	Daskalakis
Thursday February 22, 2024	6:30 PM	RMLD AV Room	Pacino
Thursday March 21, 2024	6:30 PM	RMLD AV Room	Bitá

11. 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

Accounts Payable / Payroll Questions through January 22, 2024

October 2023 Financials

Surplus and Scrap Material Report December 2023

ATTACHMENT 1
APPROVAL OF MEETING MINUTES



Town of Reading Meeting Minutes

Board - Committee - Commission - Council:

RMLD Board of Commissioners

Date: 2023-09-28

Time: 6:30 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:**

Board of Commissioners: Philip B. Pacino, Chair; David Talbot, Vice Chair; Robert Coulter, Commissioner; Marlena Bitá, Commissioner, Pamela Daskalakis, Commissioner.

Commissioner Tablot attended the meeting remotely.

Refer to "opening remarks" in the meeting minutes for members entrance and exit times.

Members - Not Present:

Others Present:

Citizens' Advisory Board: George Hooper (Wilmington)

RMLD Staff: Gregory Phipps, General Manager; Erica Morse, Executive Assistant; Benjamin Bloomenthal, Director of Finance & Accounting; Erin MacDonough, Operational Assistant.

RMLD Liasons: Karen Herrick (Select Board)

Minutes Respectfully Submitted By: Philip B. Pacino Secretary Pro Tem

Topics of Discussion:

Documents and exhibits used at this meeting can be found on the RMLD website in the BoC meeting packet and linked here: [Board of Commissioners Meeting Agenda and Packet | Reading Municipal Light Dept \(rml.com\)](#)

Call Meeting to Order

Acting Chair Talbot called the RMLD Board of Commissioner's (BoC) meeting to order at 6:30 PM and announced that the meeting would be held in person, remotely on Zoom, and will be streamed live on RCTV and YouTube.

Opening Remarks and Introductions

Acting Chair Talbot read the RMLD BoC Code of Conduct and asked all remote attendees to identify themselves. Acting Chair Talbot attended the meeting remotely.

Due to the absence of Chair Pacino, Vice Chair Talbot was Acting Chair during this meeting until Agenda Item 7: Procurement Requests for Board Approval. Commissioner Talbot will excuse himself from the meeting after consideration of all Agenda item 7 matters.

Commissioner Bita was to be appointed Acting Chair from the inception of discussion of Agenda Item 7: Procurement Requests for Board Approval until the BoC entered into Executive Session.

Chair Pacino arrived prior to the Executive Session meeting was called and was Chair from the time Executive Session was called to order (8:40 PM) until adjournment.

Presentation of Meter Lamp to retired Commissioner John Stempeck

Mr. Phipps commemorated Mr. Stempeck's service as a Commissioner from 2012 through spring of 2023. Mr. Phipps added that RMLD and the BoC expressed gratitude for his many contributions.

As a retirement tradition, RMLD presents 1920s style meter lamps to retiring Commissioners and staff; Mr. Stempeck will receive his lamp next week.

Mr. Phipps, on behalf of RMLD, the BoC, and the Citizens' Advisory Board (CAB), thanked Mr. Stempeck for his service to Reading and RMLD customers.

Acting Chair Talbot expressed thanks and well wishes to Mr. Stempeck.

Public Comment

There was no comment from the public, the CAB, or BoC liaisons during the public comment portion of the meeting.

Karen Herrick, Reading Select Board Liaison arrived at 7:15 PM.

Approval of Board of Commissioner's Meeting Minutes

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

The minutes were approved as presented.

Commissioner Daskalakis made a **motion**, seconded by Commissioner Coulter, that the RMLD Board of Commissioners approve the February 6, 2023; February 15, 2023; March 15, 2023; April 19, 2023; May 29, 2023; June 7, 2023, open session meeting minutes, as presented, on the recommendation of the General Manager and the Board Secretary.

Motion Carried: 4:0:1 (4 in favor, 0 against, 1 absent) *Roll Call Vote: Acting Chair Talbot, Aye; Commissioner Coulter, Aye; Commissioner Bita, Aye; Commissioner Daskalakis, Aye. Chair Pacino was absent from the meeting.*

2022 Annual Report Confirmation

Materials: Draft CY2022 Annual Report (BoC Packet, attachment 2)

Mr. Phipps presented the CY2022 Annual Report to the BoC for approval.

Mr. Phipps explained that the bulk of the report consists of the audited financials, previously accepted by the BoC in June. The intention is to vote on the remaining report sections.

Introductory section

The introductory portions include a summary section with key statistics and highlights.

Mr. Phipps noted the emphasis on power supply, RMLD's art contest, and certificates.

RMLD's energy portfolio

Acting Chair Talbot requested to review the characterization of RMLD's non-carbon and carbon energy portfolio (pages 18-19) and suggested adding a vertical scale to the chart on page 18.

Certificate handling & non-carbon compliance

Mr. Phipps noted that the lower left-hand charts provide a snapshot for 2022 and the stacked bar charts extend out through 2032. This information links to how RMLD handles certificates. Certificates include RECs (Renewable Energy Certificates) and EFECs (Emission Free Energy Certificates).

Mr. Phipps explained the importance of retiring certificates for compliance with State regulations, highlighting the State's compliance requirement for MLPs (Municipal Light Plants) to be 50% non-carbon by 2050.

Mr. Phipps emphasized that the majority of RMLD's renewable energy has associated certificates with it. RMLD's commitment was to retire 26% of energy sales in certificates for 2022.

The majority of certificates retired were from nuclear and hydro energy sources. Acting Chair Talbot clarified that in 2022, 26% of RMLD's portfolio was non-carbon with ~20% nuclear and ~5% hydro.

Acting Chair Talbot clarified that from 2023 through 2026, nuclear is the only source in RMLD's portfolio that can be considered non-carbon compliant. No solar or wind in the portfolio from 2022-2026 is considered non-carbon eligible from a compliance perspective.

Discussion ensued on the compliance eligibility of various energy sources. Mr. Phipps emphasized that the only way to categorize something as non-carbon in the portfolio is if the certificates have been retired, emphasis on retired.

Renewable Choice program

Commissioner Daskalakis inquired about the renewable choice program's impact on RMLD's portfolio. Mr. Phipps responded by explaining the program's low adoption rate and its incremental nature over the portfolio. The program offers additional certificate retirements above the standard retirement percentage.

Discussion ensued on the program's structure, options, and customer participation. Mr. Phipps highlighted the ease of enrolling in the program and its potential cost impact on customer bills, but given low adoption rate by customers, the impact is small.

Sample renewable choice program scenario

Acting Chair Talbot discussed a scenario where a customer whose current bill is \$100 could enroll in the program at 100% and say that 100% of their energy is non-carbon and their bill would increase to ~ \$120 a month.

Commissioner Daskalakis made a **motion**, seconded by Commissioner Bitá, that the RMLD Board of Commissioners approve the Annual Report for CY2022, as presented, on the recommendation of the General Manager. **Motion Carried: 4:0:1** (4 in favor, 0 against, 1 absent) *Roll Call Vote: Acting Chair Talbot, Aye; Commissioner Coulter, Aye; Commissioner Bitá, Aye; Commissioner Daskalakis, Aye. Chair Pacino was absent from the meeting.*

Policy Review

Materials: Policy 18 Strategic Plan and Policy 31 Vehicle Use Review Packets (attachment 3)

Policy 18: Strategic Plan Revision 5

Live editing of Policy 18 was conducted during the meeting.

Mr. Phipps presented the streamlined Policy 18: Strategic Plan, emphasizing simplification and focusing on key aspects.

Policy revisions

The proposed policy revision removed verbiage that detailed tools and frameworks for strategic planning, and instead highlights the intention to create a plan every 5 years.

Mission and vision statement

Discussion ensued on integrating mission and vision statements into the strategic plan, noting the nature of strategic plans and the relevance of mission statements.

Commissioner Coulter expressed concerns about conflating the strategic plan with mission statements, stating that strategic plan is not the same as a mission statement.

Mr. Phipps clarified that the strategic plan should include a mission statement, vision statement, and set goals for achieving them.

Commissioner Bitá suggested clarifying the definition of mission statement, vision statement, and strategy.

The following edits were proposed and accepted by the BoC.

Under Section 1: Purpose and Scope, Paragraph 2, Sentence 1: Add "(who we are)" after mission statement "(where we are going)" after vision statement, and "(how to get there and milestones)" after strategies.

Strategic plan progress updates

Commissioner Daskalakis suggested including a provision for regular updates on the strategic plan's progress. It was decided that RMLD would provide an annual progress update.

The following edit was proposed and accepted by the BoC.

Section 2: Policy Details, Sentence 1: Add "and annually provide a progress update against the strategic plan" after the five-year comprehensive update requirement.

The BoC accepted the proposed policy as amended including two additional live edits.

Commissioner Daskalakis made a **motion**, seconded by Commissioner Bitá, that the RMLD Board of Commissioners approve Policy 18: Strategic Plan (Revision 5), as presented and amended, on the recommendation of the General Manager. **Motion Carried: 4:0:1** (4 in favor, 0 against, 1 absent) Roll Call Vote: Acting Chair Talbot, Aye; Commissioner Coulter, Aye; Commissioner Bitá, Aye; Commissioner Daskalakis, Aye. Chair Pacino was absent from the meeting.

Policy 31: Vehicle Use Policy Revision 2

Live editing of Policy 31 Vehicle Use was conducted during the meeting.

Mr. Phipps introduced the proposed revisions to Policy 31. Mr. Phipps emphasized key policy elements: responsibilities with company vehicles, focus on safety, and adherence to legal requirements.

Policy revisions

The policy was streamlined from 8 pages to 1.5 pages, and detailed aspects were shifted to an internal procedure.

Inspection and reporting procedures

Commissioner Daskalakis inquired about pre-trip inspections and reporting vehicle issues. Mr. Phipps responded that the internal procedure further details what occurs during and after the pre-inspection process.

Distracted driving – MGL

The BoC discussed distracted driving and the suggestion to emphasize cell phone usage. It was decided to incorporate Massachusetts General Laws (MGL) in the policy.

The following edits were proposed and accepted by the BoC.

Section 2: Policy Elements: Number 8: Add "as per Massachusetts General Law" after distracted driving is prohibited.

Alcohol and drug testing

Commissioner Coulter inquired about the drug and alcohol testing policy for vehicle users and noted that there should be something in the policy referencing this.

Mr. Phipps clarified that RMLD has a drug/alcohol testing policy subject to all employees.

The following edits were proposed and accepted by the BoC.

Section 2: Policy Elements: Number 1: Add the verbiage "An employee may be subject to drug and alcohol testing as required by applicable laws, regulations, and RMLD policies and relevant collective bargaining agreements."

CDL (Commercial Driver's License)

In response to Commissioner Bitá's question, Mr. Phipps clarified CDL requirements for certain vehicles.

Mr. Hooper asked if random drug testing was required for CDL drivers. Mr. Phipps responded that random drug testing is required for all staff.

Language refinements

Acting Chair Talbot proposed language adjustments for consistency and legal compliance.

The following edits were proposed and accepted by the BoC.

Section 2: Policy Elements: Numbers 1, 2, and 3 "Municipal Work purposes" was changed to was removed from "work purposes." and "Municipal vehicles" was changed to RMLD vehicles.

Commissioner Daskalakis made a **motion**, seconded by Commissioner Bitá, that the RMLD Board of Commissioners approve Policy 31: Vehicle Use (Revision 2), as presented and amended, on the recommendation of the General Manager. **Motion Carried: 4:0:1** (4 in favor, 0 against, 1 absent) Roll Call Vote: Acting Chair Talbot, Aye; Commissioner Coulter, Aye; Commissioner Bitá, Aye; Commissioner Daskalakis, Aye. Chair Pacino was absent from the meeting.

At this point during the meeting, Commissioner Bitá became Acting Chair.

Procurement Requests

Materials: Procurement Requests for Board Approval (BoC packet Attachment 4)

IFP 2023-37 – Pad Mounted Transformers

Mr. Phipps introduced the bid for pad mount transformers, essential for ongoing field installations and replacements.

Mr. Phipps provided details of the bid and the rationale for the recommendation. The bid, sent to 11 vendors, received 3 responses, with Westco submitting 2 versions.

Mr. Phipps noted that this is the second bid in 2023, following a previous award in March, with a remaining budget of ~\$643K.

Commissioner Daskalakis inquired about the price validity of the bid, noting concerns about potential changes.

Mr. Phipps clarified that the prices are fixed, with no price change provisions, and the delivery times have been extended to 40 weeks.

Acting Chair Bitá questioned the 209-week delivery time for one of the Westco bids. Mr. Phipps confirmed the long delivery times and discussed the need for frequent ordering due to high demand and supply constraints.

Commissioner Coulter emphasized the industry-wide challenges in transformer supply, noting the impact on customer-driven jobs and the limited buying power of smaller entities.

Commissioner Coulter expressed surprise at the fixed price offer given current market conditions.

Commissioner Daskalakis made a **motion**, seconded by Vice Chair Talbot, that IFB 2023-37 for Pad Mounted Transformers be awarded to: WESCO Distribution Inc., for \$659,580, pursuant to M.G.L. c. 164 § 56D, on the recommendation of the General Manager. **Motion Carried: 4:0:1** (4 in favor, 0 against, 1 absent) *Roll Call Vote: Acting Chair Talbot, Aye; Commissioner Coulter, Aye; Commissioner Bitu, Aye; Commissioner Daskalakis, Aye. Chair Pacino was absent from the meeting.*

IFB 2023-48 Removal, Transportation, Disposal and Remediation of Hazardous Materials

Mr. Phipps presented a 3-year contract proposal for the removal, transportation, and disposal of hazardous materials, including emergency response services. The contract covers a range of scenarios, including PCB contamination, oil spills, and transformer failures.

The proposed vendor is Green Site Services, selected for being the most responsive and responsible bidder, with no exceptions taken.

Mr. Phipps emphasized that Cushing, Jammallo & Wheeler, RMLD's Licensed Site Professional, has positive experience with Green Site Services and their capabilities.

Commissioner Coulter inquired about the size of Green Site Services compared to other vendors like Clean Harbors.

Mr. Phipps confirmed RMLD has not worked with Green Site Services directly but Cushing, Jammallo & Wheeler has. They are established and are well respected.

Commissioner Daskalakis questioned why 15 companies chose not to bid. Mr. Phipps attributed it to their busy schedules.

Chair Bitu sought clarification on the job examples provided in the bid letter.

Mr. Phipps clarified that the examples were illustrative, as each job varies, and emphasized the need for licensed professionals to handle materials in compliance with state requirements.

Commissioner Daskalakis made a **motion**, seconded by Vice Chair Talbot, that IFB 2023-48 for Removal, Transportation, Disposal, and Remediation of Hazardous Materials including Emergency Response Services be awarded to: Green Site Services Group, Inc. for an estimated amount of \$50,000 per year, pursuant to M.G.L. c. 30 § 39M, as the lowest responsible and eligible bidder on the recommendation of the General Manager. **Motion Carried: 4:0:1** (4 in favor, 0 against, 1 absent) *Roll Call Vote: Acting Chair Talbot, Aye; Commissioner Coulter, Aye; Commissioner Bitu, Aye; Commissioner Daskalakis, Aye. Chair Pacino was absent from the meeting.*

Commissioner Talbot excused himself and departed the meeting at 7:25 PM.

RMLD Strategic Plan

Materials: RMLD Strategy Overview (attachment 5)

RMLD Mission and Vision – Updated (slide 3)

Mr. Phipps introduced the updated mission and vision statements for RMLD, emphasizing simplicity and clarity.

Mission statement

Mr. Phipps emphasized the incorporation of RMLD "Team" and the focus on serving customers with reliable, low-cost, and increasingly non-carbon energy. Increasingly was added to the mission because RMLD's portfolio is not 100% non-carbon.

Vision statement

Mr. Phipps highlighted RMLD's support for electrification and the transition to non-carbon energy with customer engagement.

Commissioner Coulter suggested adding "responsible" to the mission or vision statement to emphasize the importance of a careful transition to non-carbon energy.

Mr. Phipps agreed to add verbiage to the vision statement, enhancing its focus on a cautious and pragmatic approach.

Executive Summary (slide 4)

Mr. Phipps noted that slide 4 is meant to be a summary of the highlights.

Context – External to RMLD (slide 5)

Mr. Phipps discussed the external factors influencing RMLD's strategic planning, as outlined on slide 5.

Legislative compliance

Mr. Phipps noted that the transition to electrification and decarbonization is driven by legislation and is a key factor in RMLD's strategy. The transition involves increasing electric vehicle adoption and electrification of building heating and cooling.

The 2021 Climate Bill (now Law) mandates increased use of non-carbon energy sources, particularly in transportation (e.g., Electric Vehicles) and aims to phase out light-duty vehicles with internal combustion engines by 2035.

Mr. Phipps emphasized RMLD's focus on complying with current legislation. The organization operates under the assumption that current laws will likely remain in place or may become stricter.

Energy generation and network stability

Mr. Phipps discussed energy generation and network stability, emphasizing the fragility inherent in the transition to non-carbon sources. Mr. Phipps clarified that ISO New England maintains the reliability of the network.

Mr. Phipps highlighted the potential impacts on the natural gas network due to the closure of large generation plants like the Mystic Generation Plant.

Mr. Phipps discussed the challenges with Offshore Wind Projects. Significant external challenges include delays and cost increases in offshore wind projects, as well as the need for new transmission systems to handle increased capacity beyond 7,000 MWs.

Context –Internal to RMLD (slide 6)

Mr. Phipps discussed the internal context, highlighting RMLD's power supply portfolio and infrastructure.

Portfolio management & hedging

Mr. Phipps emphasized that the current power supply portfolio is in good condition but requires management due to the shift towards more intermittent resources. Currently, RMLD's hedging is nearly 95%, influenced by a milder year driving lower than anticipated kilowatt-hour sales.

Transmission system – reliability

RMLD uniquely ties to both Eversource and National Grid transmission systems, which is important from a reliability perspective. Substation 6 will create another tie point with National Grid, and the Maple Meadows project will establish a fourth tie point with Eversource.

Battery storage

RMLD currently has a 5 MW 2-hour battery system and plans to expand this to 30 megawatts of nearly 3-hour capacity by early 2025. This expansion aims to enhance both reliability and peak management.

Annual Load (MWHs) nearly doubles by 2050 (slide 7)

Mr. Phipps presented RMLD's annual load forecast from 2023 to 2050, projecting nearly a doubling of load.

Projected growth

MWh sales are expected to increase from ~ 700K to ~1.3m MWHs by 2050.

Key drivers of load increase

Electric Vehicles (EVs) are a major contributor to load growth. Residential EV adoption is distinguished from fleet vehicles (industrial and commercial).

Air Source Heat Pumps (ASHPs) contribute to the increase, but to a lesser extent than EVs.

Adoption rates

The forecast assumes a slightly less than 100% adoption rate of EVs by 2050, with current EVs in the service territory around 1K out of 55K total vehicles.

Notable growth years

Significant increases in EV-related load are anticipated starting in 2026, becoming more substantial by 2038 - 2050.

Legislation impact

The forecast is designed around current legislation, with acknowledgment that adoption rates could vary based on potential legislative changes.

Monthly Load Shape Changes by 2050 (slide 8)

Mr. Phipps discussed the monthly load shape for the years 2023, 2038, and 2050, emphasizing the impact of increased electrification.

Monthly load shape changes

Mr. Phipps explained the charts show the addition of load due to ASHPs and EVs.

Summer load increase

Between 2023 and 2050, the summer load is projected to be about 60% higher.

Winter load doubling

The winter load in January 2050 is nearly twice that of January 2023, attributed mainly to ASHPs and EV charging.

EV Charging Efficiency

RMLD assumes that EVs are about 15% less efficient in winter, requiring additional power supply.

Acting Chair Bita inquired about the ASHP load in July from 2038 - 2050. Mr. Phipps clarified that the blue segment represents the incremental load from ASHPs, which are assumed to replace existing window and central air conditioners. ASHPs are considered more efficient, leading to a net-neutral impact on the load.

Commissioner Daskalakis asked if the modeling includes assumptions about average temperature changes over time. Mr. Phipps responded that the current model does not assume any temperature increase and emphasized that weather significantly influences load.

Mr. Phipps noted RMLD's ongoing efforts to refine their load forecasting with detailed analytics.

Commissioner Daskalakis suggested considering average temperature changes in future load modeling.

Dramatic daily load shape change possible (slide 9)

Mr. Phipps discussed the average daily load curves for RMLD, illustrating energy consumption patterns from midnight to midnight.

Load curve characteristics

Mr. Phipps explained that the curve appears flat, but this is due to the factor of 2x from the bottom to the top.

EV charging impact

Mr. Phipps noted that the model for 2043 assumes 80% EV adoption in the territory. The orange line on the chart represents the load with EV charging primarily overnight.

Rate structure design

Mr. Phipps explained that 80% EV charging overnight would cause 3x load by early 2040's. Such an overnight peak is not ideal. The bottom left-hand chart shows a scenario that aims for a flatter load curve through different rate blocks (overnight, morning, peak afternoon), a much better result.

EV rate structure

Mr. Phipps noted that RMLD is working on introducing a dedicated EV rate. The assumption is that residential customer habits won't change significantly. The only difference will be EV charging, which is a new and learnable behavior.

Rate design flexibility

Mr. Phipps explained that recent analysis is leading RMLD to rethink rate design, especially for EVs, to encourage desired charging behaviors and maintain grid stability.

Demand (MWs) 75% higher by 2050 (slide 10)

Mr. Phipps differentiated between load (MWh sold) and demand (network peak), clarifying that slide 10 references demand.

Current network peak

Mr. Phipps stated that RMLD's network peak typically occurs in July (around 170 MWs) with a network capacity designed for 220 MWs.

2050 forecast

Mr. Phipps mentioned that by 2050, demand is expected to approach 300 MWs, exceeding current network capacity.

Substation impact

Mr. Phipps noted that the addition of the new substation will raise capacity to ~ 270 MWs, but further enhancements will be necessary to meet future demands.

Network stress forecast

Mr. Phipps emphasized that anticipated EV adoption will significantly increase network stress by the early to mid-2030s.

Infrastructure planning

RMLD is analyzing future load to plan network upgrades, with consideration of the lifespan of transformers, substations, and wiring.

Safety buffer and charging patterns

Mr. Phipps highlighted the need for a safety buffer above 300 MWs.

Mr. Phipps discussed assumptions around simultaneous EV charging, which significantly influences demand projections.

Investment Timing – Key Initiatives (slide 12)

Mr. Phipps outlined RMLD’s investment timeline and key initiatives, which will be detailed in the upcoming budget review in October and November.

Mr. Phipps highlighted RMLD’s responsible and balanced approach to investments, incorporating grants and Investment Tax Credits to ease the financial burden on ratepayers.

Acquiring land

Mr. Phipps emphasized the importance of acquiring land immediately for future projects.

Energy storage expansion

RMLD plans to implement 30 MWs of short-term battery storage and continue exploring long-term storage solutions.

In territory generation

Mr. Phipps highlighted RMLD’s focus on building generation within its territory to mitigate capacity and transmission costs, which form a significant part of the cost structure.

Metering project

RMLD plans to enhance monitoring capabilities through updated metering systems.

Software and security updates

Mr. Phipps emphasized RMLD’s priority of keeping internal platforms up-to-date and ensuring robust security.

Transforming ash street campus

RMLD is considering options for the Operations building and overall site, with potential actions planned for 2025-2027.

Finance & Accounting Update

Materials: Financial Update (attachment 6)

Mr. Bloomenthal presented a financial update to the BoC.

Finance and Accounting Milestones (slide 1)

Mr. Bloomenthal provided an overview of the RMLD financial status and milestones.

CY2024 budget

The CY2024 budget is in the final stages of preparation, and the RMLD staff is collaborating to finalize details. A formalized CY2024 budget presentation and related discussion is scheduled for the October BoC and CAB meetings.

Staffing updates

Mr. Bloomenthal provided a staffing update, highlighting the recent promotions detailed on slide 1.

A new Staff Accountant was hired, bringing Great Plains experience. The employee previously in the Staff Accountant role is transitioning to a more hands on career path within RMLD.

Above the line payment

Mr. Bloomenthal reported on the above the line payments to the four service towns, detailed on slide 1.

Below the line payment

Mr. Bloomenthal reported on the payment schedule and amount for the below the line payment to the Town of Reading, detailed on slide 1.

Preliminary Cash Balances – As of 6/30/2023 (slide 2)

Mr. Bloomenthal reported on RMLD's preliminary cash balances.

Mr. Bloomenthal highlighted RMLD's strong financial position, with ~\$55m in cash as of June 30, 2023. This includes restricted cash, restricted investments, and unrestricted cash.

Mr. Bloomenthal emphasized RMLD's fiscal consciousness and awareness of industry changes. Strong cash reserves, both restricted and unrestricted, are crucial for upcoming capital projects.

Preliminary Operating Budget vs. Actuals through 6/30/2023 (slide 3)

Mr. Bloomenthal reported on RMLD's preliminary operating budget vs. actual spending.

Mr. Bloomenthal clarified that on Slide 3's graph, the blue line should be on top, and orange line on the bottom.

RMLD's actual spending is currently below budgeted numbers. The June financials were finalized with ~\$10m in operating costs.

The organization has maintained good control over employee head count, which allows RMLD to ensure these expenses remain under budget. Expense management continues to be effective, with forecasted expenses expected to be below budget for the year.

Cash Expenditures through 7/31/2023 (slide 4)

Mr. Bloomenthal reported on capital expenditures, highlighting that transformers are a critical component. Transformers represent ~ \$7 million of the 2023 capital budget.

Mr. Bloomenthal noted that as of July 21, 2023, RMLD has spent \$5.1m out of the \$22.85m total capital budget for 2023. Capital spending is increasing but projected to be around \$12m by the fiscal year-end, due to delays in transformer delivery.

DOE Awards as of 9/1 (slide 5)

Mr. Bloomenthal reported on the DOE awards as of September 1, 2023.

RMLD is actively pursuing federal funding in various forms: grants, IRA tax credits, and rebates. These funding sources are crucial for advancing RMLD's upcoming capital program.

Rebates

Under President Biden's infrastructure law, RMLD was authorized to receive up to \$25K in rebates for transformers as of September 1.

Grants

Mr. Bloomenthal noted that he is collaborating with the Congressional delegation for grant application follow-ups, ensuring RMLD's prominence in fund allocation.

IRA tax credits

RMLD is exploring direct IRS payment tax credits, akin to rebates but under a different program.

Town of Reading green communities update

Ms. Herrick provided an update to the BoC on the Green Communities Program, noting that State Representative Haggerty sent a letter to the DOE about the guidelines for Reading's participation in the Green Communities program. Reading is actively pursuing this initiative.

Fuel reserve and rate stabilization fund

Ms. Herrick raised concerns about RMLD's policy regarding the fuel reserve fund and referenced a past pipeline explosion that caused gas rate spikes. Ms. Herrick questioned the status and policy usage of the fund.

Mr. Phipps clarified the distinction between the rate stabilization fund and the fuel reserve fund. The fuel reserve charge adjusts monthly, accounting for energy cost fluctuations. The rate stabilization fund acts as a 'rainy day fund' and has been discussed at past BoC meetings.

Mr. Phipps noted that there has been discussion with the BoC around changing the structure of the Rate Stabilization Fund to constitute 10% of the forecasted annual power supply cost.

Mr. Phipps addressed the volatility in energy markets and the purpose of the Rate Stabilization Fund as insurance for circumstances. Mr. Phipps cited the example of a major piece of equipment on the wholesale market failing, causing increased energy costs to fill gap.

In response to Ms. Herricks' inquiry, Mr. Phipps reported on the recent use of the Rate Stabilization Fund. In late 2021, \$1.6m was applied to the fuel charge as a credit, effectively giving funds back to the customers by reducing the fuel cost.

Customer billing analysis

Mr. Phipps noted a low increase in customer bills over the past year, attributable to various factors, including energy consumption. Commissioner Coulter commented on the impact of mild temperatures allowing for lower rates and energy costs being a pass-through expense.

Grants and rebate inquiry

Commissioner Coulter asked if \$25K was the total rebate amount or the amount per transformer. Mr. Phipps confirmed that the total rebate amount is \$25K. The rebates are primarily for pole mount transformers.

Mr. Phipps noted that RMLD has submitted over \$48m in grant applications in 2023, and the team is actively pursuing both large and small funding opportunities.

Payroll department checks and balances inquiry

Commissioner Bita inquired about checks and balances in the payroll department, with only one staff member overseeing payroll. Mr. Bloomenthal assured the BoC that there are robust checks and balances in place.

NEPPA 2023 Annual Conference Report

Materials: Summary Notes: NEPPA 2023 Annual Conference (BoC Packet, attachment 7)

Materials: 2023 NEPPA Conference Presentations (referenced not presented)

Mr. Phipps provided a summary of the 2023 NEPPA Annual Conference presentations to the BoC.

Gordon van Welie – Keynote (slide 3)

Mr. Phipps summarized the highlights of keynote speaker Gordon van Welie's presentation.

Legislative impact & increase in non-carbon energy sources

Mr. van Welie's presentation stated that legislation is driving changes in the energy world, leading to a shift in the energy mix from primarily natural gas. It was emphasized that non-carbon energy sources are growing in the energy mix.

Solar PV funding and challenges

Mr. van Welie's presentation discussed Solar PV, which is well-funded, but facing cancellations, price increases, and delays.

Offshore wind project issues

Mr. van Welie's presentation highlighted offshore wind projects, which are facing transmission challenges and higher costs than initially planned.

Transmission system needs

Mr. Phipps explained that as the energy mix becomes more non-carbon and distributed, more transmission is needed to get energy to the load centers. Mr. van Welie's presentation emphasized the significant requirement for additional transmission systems to distribute non-carbon energy.

Natural gas as a critical resource

Mr. van Welie's presentation emphasized that despite a phase-out, natural gas will remain important for periods of low renewable energy generation, such as during cold periods with no wind.

Energy adequacy and reliability

Mr. van Welie's presentation highlighted that reliability is a critical issue, significantly for the period between 2027 and 2032. Mr. Phipps emphasized that RMLD's response to this issue is focusing on reliability, energy storage, and within-territory generation.

Distribution network and winter peaking

Mr. Phipps reported that Mr. van Welie's presentation was consistent with RMLD data on winter peaking and load changes.

EVs and ASHPs as key load drivers

Mr. van Welie's presentation discussed the dynamic nature of load, reinforcing RMLD's focus on EVs and ASHPs, particularly in relation to EV charging.

Key implications for RMLD

Mr. Phipps highlighted the need to adapt to the changing energy landscape driven by legislation and market trends as well as the importance of storage, generation, and network adaptation in response to these changes.

Mr. Phipps emphasized the consistency between RMLD's strategy, and the trends outlined in Mr. Van Welie's presentation.

Mike Zenker – NE Regional Energy Outlook (slide 4)

Mr. Phipps summarized the highlights of speaker Mike Zenker's presentation.

Natural gas market and LNG (liquefied natural gas)

Mr. Zenker's presentation emphasized the recent developments in the natural gas market, particularly the impact of LNG exports and the influence of the European market.

Impact of war and pipeline issues

The redirection of LNG tankers to Europe due to higher prices and geopolitical factors has influenced energy prices.

Winter weather impact

Mr. Zenker's presentation explained that mild winters in both Europe and the US have eased energy demands, contributing to lower energy prices.

Volatility of energy pricing

Mr. Zenker's presentation highlighted the increase in volatility in energy pricing since 2010, driven by exports of natural gas.

Future of natural gas demand

Mr. Zenker's presentation predicts an increase in natural gas demand in New England until 2032, followed by a decline, leading to potential excess and reduced prices in the mid-2030s.

Legislative influence

Mr. Zenker's presentation noted that the legislative agenda is driving the shift towards non-carbon, renewable sources.

Key implications for RMLD

Mr. Phipps confirmed that RMLD has transitioned to higher hedging strategies (up to 95%) in response to market volatility and reduced volume requirements due to milder winters.

Mr. Phipps emphasized RMLD's focus on long-term contracts for stability amidst market fluctuations.

Mr. Phipps reiterated the legislative agenda's impact on RMLD's strategic planning and operations.

In response to an inquiry made by Commissioner Coulter, Mr. Phipps acknowledged that Zenker's insights are based on models and projections, not guaranteed outcomes. However, the insights align with the broader legislative direction affecting RMLD's strategies.

Mike O'Connor – Millstone Nuclear (slide 5)

Mr. Phipps discussed speaker Mike O'Connor's presentation in relation to RMLD's power supply strategy and portfolio.

Mr. O'Connor's presentation discussed Millstone Power Station; a nuclear power facility operated by Dominion Energy.

RMLD's nuclear portfolio

Mr. Phipps emphasized that RMLD's nuclear portfolio is approximately a third of the total portfolio, with potential to go up to 40%.

Mr. Phipps explained that RMLD has contracts with two nuclear facilities in New England: Millstone, in Connecticut, and Seabrook, in New Hampshire.

RMLD's Contracts with Millstone and Seabrook were established in the 1980s and are perpetual until the end of the facilities' life.

Mr. Phipps noted that Millstone is considered reliable and important for base load energy but is not highly responsive to customers. RMLD is engaging in ongoing efforts to secure additional purchases from Millstone to balance risk.

Small Modular Reactors (SMRs)

Acting Chair Bita inquired about the development of SMRs in New England. Mr. Phipps explained that while there is interest in SMRs, current pilot projects are in Idaho and Utah, and widespread adoption is at least 15 years away.

Mr. Phipps noted that the economic viability and location for SMRs are still under discussion, with potential political challenges.

Commissioner Coulter mentioned SMR plans in the Ontario area.

Mr. Phipps mentioned there is significant private investment in SMR technology, but its future dominance in the energy mix remains uncertain.

Key implications for RMLD

Mr. Phipps stated that RMLD continues to rely on nuclear power as a key part of its energy portfolio, and the ongoing strategy to balance the portfolio.

General Managers Report

Mr. Phipps provided a General Manager's Report to the BoC.

Station 6 development

Mr. Phipps reported that ISO New England completed the system impact study for Station 6, indicating no adverse impact on the transmission system. Final approval is expected by the end of November.

Flexible work schedules

Mr. Phipps noted that RMLD is implementing flexible 4-day, 10-hour work schedules for line crews from mid-October through Christmas. Overtime will be offered on Fridays, aligning with subcontractor obligations.

Storm preparedness

Mr. Phipps emphasized RMLD's priority of ensuring storm preparedness.

Employee survey

Mr. Phipps stated that RMLD is planning another employee survey, for the end of October. RMLD is considering conducting an anonymous survey but will need to review the anonymous communication policy before implementation.

In response to Acting Chair Bitá's inquiry, Mr. Phipps confirmed that the previous survey was limited, but not anonymous. Mr. Phipps confirmed that only he saw the responses.

Mr. Phipps noted that the previous survey had a high participation rate, but the team is trying the new approach to see if participation increases further.

Communication enhancements

Mr. Phipps mentioned increased engagement in quarterly webinars and newsletters.

Mr. Phipps introduced RMLD's new podcast, with two sessions already recorded and live. The podcast is available on YouTube and linked in the latest RMLD newsletter. RMLD will continue the promotion and recording of the podcast series as a new communication channel for better customer engagement.

Scheduling

The next BoC meeting will be a joint meeting with the CAB on October 25, 2023.

Executive Session

Commissioner Daskalakis made a motion, seconded Commissioner Coulter, 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 consider the purchase, exchange, lease or value of real property relative to Maple Meadow and Route 125 in Wilmington, if the chair declares that an open meeting may have a detrimental effect on the negotiating position of the public body, to approve executive session meeting minutes, and return to regular session, for the sole purpose of adjournment. Note: Roll call vote required. Motion Carried: 3:0:2 (3 in favor, 0 against, 2 absent) Roll Call Vote: Commissioner Coulter, Aye; Acting Chair Bitá, Aye; Commissioner Daskalakis, Aye. Chair Pacino and Vice Chair Talbot were absent from the meeting.

Adjournment

The BoC meeting adjourned at 9:24 PM.

Commissioner Coulter made a **motion**, second by Commissioner Daskalakis, that the Board of Commissioners adjourn regular session. **Motion Carried: 4:0:1** (4 in favor, 0 against, 1 absent) *Roll Call Vote: Chair Pacino, Aye; Commissioner Coulter, Aye; Acting Chair Bitá, Aye; Commissioner Daskalakis, Aye. Vice Chair Talbot was absent from the meeting.*

ATTACHMENT 2
POLICY REVIEW

Policy 30 Revision 2
Renewable and Greenhouse Gas (GHG)
Reduction Regarding Power Supply
Procurement

RMLD Board of Commissioners Meeting
January 31, 2024
Policy 30: Non-Carbon Power Portfolio Mix



In accordance with the Board’s periodic policy review, attached is the review package for Policy 30: Non-Carbon Power Portfolio Mix (Revision 2).

Included are the following four components for Policy 30: Non-Carbon Power Portfolio Mix R2:

- 1) Summary & highlights (this page)
- 2) Final clean copy with all changes accepted.
- 3) Redlined copy, showing edits from the December 13, 2023, meeting.
- 4) Redlined copy, showing all edits from 2021 (R1).

Based on two years of experience with the 2021 Climate Bill, proposed Revision 2 is a streamlined draft that provides more clarity and simplicity. Note that the 2021 Climate Bill was passed the month after (March 2021) BoC approval of Revision 0 and Revision 1 (Feb 2021). Key changes for Revision 2 include:

- a) Title changed to reflect the non-carbon metric from the actual text of the 2021 Climate Bill.
- b) Background and redundant verbiage deleted to simplify this policy and also avoid potential conflicts with other RMLD policies.
- c) Responsibilities for Boc, CAB and GM refined and moved to Policy 19. Added that annual certificate retirement targets are to be proposed by the GM, for decision making input by the BAC, and approval by the BoC.
- d) 2021 Climate Bill replaces Roadmap 2050 in earlier Revisions.
- e) Non-Carbon is the metric replaces renewable or greenhouse gas (GHG), per the 2021 Climate Bill.

Additional policy modifications are outlined below.

Section 1: Preamble	<ul style="list-style-type: none"> • Deleted; redundant to numerous other RMLD documents, including other policies. • Some elements, such as the reminder that RMLD has franchise obligations via M.G.L. 164 are already included in Policy Elements.
Section 2: Purpose	<ul style="list-style-type: none"> • Non-carbon replaces renewable as the metric per the 2021 Climate Bill. • Majority of remaining text remains, capturing some of the key verbiage from the deleted Preamble.
Section 3: Responsibilities	<ul style="list-style-type: none"> • Review every three years or earlier moved to Policy 19. • The remaining text, much of which being covered in the 20 Year Agreement, moved to Policy 19.
Section 4: Policy Elements	<ul style="list-style-type: none"> • Added compliance to Policy 19 at end of paragraph E (BoC to approve). • Additional word replacements as noted above. • BoC may vote on policy changes moved to Policy 19.
Attachment 1: Update 2	<ul style="list-style-type: none"> • Added note that RMLD will explore other generation technologies, specific examples noted.

**RMLD Policy No. 30
NON-CARBON AND GREENHOUSE GAS (GHG) REDUCTION
REGARDING POWER SUPPLY PROCUREMENT**

Revision No. 2

Commission Vote Date

General Manager/Date

Next Review Date

I. PURPOSE

- A. To establish general policy guidelines to aggressively pursue practical and cost-effective non-carbon and GHG reduced power supply opportunities that balance RMLD’s customers’ priorities, its franchise obligations, reliability, power supply risk mitigation, and financial risk mitigation, while complying with applicable laws and regulations
- B. To provide an opportunity for customers who wish to go above and beyond RMLD’s non-carbon energy goals and requirements.

II. POLICY ELEMENTS

- A. RMLD shall comply with all laws applicable to Municipal Light Plants, pertaining to renewable, non-carbon, and GHG reduction power procurement requirements, including 2021 Climate Bill requirements, while balancing its customer priorities and franchise obligations. RMLD shall strive to make incremental changes on an annual basis, especially certificate retirement targets, where possible, to mitigate potential rate shocks. 2021 Climate Bill requirements that are applicable as of the date of this Policy are attached hereto as Attachment 1.
- B. RMLD remains committed to supporting the Commonwealth’s goals for Green House Gas (GHG) reduction and electrification, in the context of RMLD’s customer obligations and RMLD’s Mission.
- C. RMLD will continue to improve its utility operations, including power supply, to support the Commonwealth’s goals of reducing GHG emissions. RMLD has a unique mix of location, geography, and demographics. Given this context, RMLD will apply its unique capabilities to proactively explore and implement new programs, business models, and technologies to contribute to the reduction of GHG in its operation as an electric utility.
- D. The RMLD shall develop the Renewable Choice Program, as an option available to all ratepayers. The Renewable Choice Program will allow RMLD customers to purchase “blocks” of Class 1 energy certificates (“RECs”) for an additional monthly fee. Customer REC purchases (for subsequent retirement) through the Renewable Choice Program are above and beyond RMLD’s other GHG reduction power procurement goals and requirements and are intended to help customers who have stated that they would be willing to pay more.

- E. In order to balance RMLD’s customer priorities and franchise obligations with compliance with all applicable laws pertaining to non-carbon and GHG reduction power procurement requirements, the General Manager may retain or may market RECs as she/he deems to be in the best interest of the RMLD and in compliance with all applicable law and Policy 19.

- F. If applicable laws pertaining to non-carbon and GHG reduction power procurement change after the effective date of this Policy, the General Manager will review such changes and report to the RMLD Board on such changes and shall present for review and comment by the Board a plan for compliance with such changes that is consistent with RMLD’s customer priorities and franchise obligations.

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RMLD POLICY 30

ATTACHMENT 1 – Update 2

ROADMAP to Net-Zero Carbon by 2050
(a.k.a., S.9 or MLP GGES Legislation, amending chapter 25A)
Legislation effective (March 2021)

<i>Provision</i>	<i>Key Elements</i>
Goals	This Legislation sets a minimum percentage of non-carbon emitting energy sold by MLPs (retail sales): 2030 - 50% non-carbon emitting energy sales 2040 - 75% non-carbon emitting energy sales 2050 - net-zero greenhouse gas emissions energy sales
Sources	In this Legislation, “non-carbon emitting” is defined as energy generated from: (1) solar photovoltaic; (2) solar thermal electric; (3) hydroelectric, including imports (4) nuclear; (5) marine or hydrokinetic energy; (6) geothermal energy; (7) landfill methane; (8) anaerobic digester gas; (9) wind energy; (10) biomass (The RMLD Board of Commissioners approves the exclusion of future wood burning biomass as an acceptable non-carbon or greenhouse gas reduction resource of generation under this Policy); and (11) any other generation qualifying as special cases per this Legislation. Note that RMLD will explore other generation technologies that are compliant with MGL CH 25A, Section 11f3/4, including carbon capture fuel cells, hydrogen system, and low-temperature geothermal general systems.
Make / Buy	MLPs may either purchase or generate non-carbon emitting energy. Existing energy supply contracts that meet Legislation requirements count as compliance.
Certificates	Qualification requires the MLP retirement of certificates for these energy retail sales. These certificates consist of non-carbon energy credits, emission-free energy certificates, or other evidentiary non-carbon emitting documentation.
Reporting / Alternative Compliance Payment	MLPs shall file an annual report demonstrating compliance. If an MLP fails compliance, it shall make an alternative compliance payment (ACP). This ACP shall not exceed \$0.010 / kWh. This ACP shall be deposited into an MLP maintained and administered fund and shall be used by the MLP to fund greenhouse gas emissions reduction and related programs in its service territory. RMLD shall establish this fund effective the date of the Legislation.

RMLD POLICY 30

ATTACHMENT 2 – Update History of Attachment 1

<i>Update</i>	<i>Effective Date</i>	<i>Exclusion/Change</i>	<i>Description</i>	<i>Recommended by General Manager and approved by BOC and CAB (vote and date)</i>
0	02/24/2021	New	Attachment 1 created to reflect MLP GGES pending Legislation that will apply to MLPs.	02/24/2021
1	02/24/2021	Exclusion	Insert under Sources Provision, Item 10, next to the word biomass (The RMLD Board of Commissioners approves the exclusion of future wood burning biomass as an acceptable non-carbon or greenhouse gas reduction resource of generation under this Policy)	02/24/2021

**RMLD Policy No. 30
NON-CARBON AND GREENHOUSE GAS (GHG) REDUCTION
REGARDING POWER SUPPLY PROCUREMENT**

Revision No. 2

Commission Vote Date

General Manager/Date

Next Review Date

I. PURPOSE

- A. To establish general policy guidelines to aggressively pursue practical and cost-effective non-carbon and GHG reduced power supply opportunities that balance RMLD’s customers’ priorities, its franchise obligations, reliability, power supply risk mitigation, and financial risk mitigation, while complying with applicable laws and regulations
- B. To provide an opportunity for customers who wish to go above and beyond RMLD’s non-carbon energy goals and requirements.

II. POLICY ELEMENTS

- A. RMLD shall comply with all laws applicable ~~laws to Municipal Light Plants,~~ pertaining to renewable, non-carbon, and GHG reduction power procurement requirements, including 2021 Climate Bill requirements, while balancing its customer priorities and franchise obligations. RMLD shall strive to make incremental changes on an annual basis, especially certificate retirement targets, where possible, to mitigate potential rate shocks. 2021 Climate Bill requirements that are applicable as of the date of this Policy are attached hereto as Attachment 1.
- B. RMLD remains is committed to supporting the Commonwealth’s goals for Green House Gas (GHG) reduction and electrification, and will continue to implement changes in support of those goals in the context of RMLD’s customer obligations and RMLD’s Mission. RMLD will stay informed of legislative and regulatory changes specific to GHG emissions.
- C. RMLD will continue to improve its utility operations, including power supply, to support the Commonwealth’s goals of reducing GHG emissions. RMLD has a unique mix of location, geography, and demographics. Given this context, RMLD will apply its unique capabilities to proactively explore and implement new programs, business models, and technologies to contribute to the reduction of GHG in its operation as an electric utility.
- ~~B.D.~~ The RMLD shall develop the Renewable Choice Program, as an option available to all ratepayers. The Renewable Choice Program will allow RMLD customers to purchase “blocks” of Class 1 energy certificates (“RECs”) for an additional monthly fee. Customer REC purchases (for subsequent retirement) through the Renewable Choice Program are

above and beyond RMLD's other GHG reduction power procurement goals and requirements and are intended to help customers who have stated that they would be willing to pay more.

~~C.E.~~ In order to balance RMLD's customer priorities and franchise obligations with compliance with all applicable laws pertaining to non-carbon and GHG reduction power procurement requirements, the General Manager may retain or may market RECs as she/he deems to be in the best interest of the RMLD and in compliance with all applicable law and Policy 19.

~~D.F.~~ If applicable laws pertaining to non-carbon and GHG reduction power procurement change after the effective date of this Policy, the General Manager will review such changes and report to the RMLD Board on such changes and shall present for review and comment by the Board a plan for compliance with such changes that is consistent with RMLD's customer priorities and franchise obligations.

~~E.~~ The RMLD Board may vote on changes to this Policy from time to time and at a frequency not to exceed three years, and any changes to Attachment 1 shall be set forth below as shown and updated on Attachment 2.

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RMLD POLICY 30

ATTACHMENT 1 – Update 2

ROADMAP to Net-Zero Carbon by 2050
(a.k.a., S.9 or MLP GGES Legislation, amending chapter 25A)
Legislation effective (March 2021)

Provision	Key Elements
Goals	This Legislation sets a minimum percentage of non-carbon emitting energy sold by MLPs (retail sales): 2030 - 50% non-carbon emitting energy sales 2040 - 75% non-carbon emitting energy sales 2050 - net-zero greenhouse gas emissions energy sales
Sources	In this Legislation, “non-carbon emitting” is defined as energy generated from: (1) solar photovoltaic; (2) solar thermal electric; (3) hydroelectric, including imports (4) nuclear; (5) marine or hydrokinetic energy; (6) geothermal energy; (7) landfill methane; (8) anaerobic digester gas; (9) wind energy; (10) biomass (The RMLD Board of Commissioners approves the exclusion of future wood burning biomass as an acceptable non-carbon or greenhouse gas reduction resource of generation under this Policy); and (11) any other generation qualifying as special cases per this Legislation. <u>Note that RMLD will explore other generation technologies that are compliant with MGL CH 25A, Section 11f3/4, including carbon capture fuel cells, hydrogen system, and low-temperature geothermal general systems.</u>
Make / Buy	MLPs may either purchase or generate non-carbon emitting energy. Existing energy supply contracts that meet Legislation requirements count as compliance.
Certificates	Qualification requires the MLP retirement of certificates for these energy retail sales. These certificates consist of non-carbon energy credits, emission-free energy certificates, or other evidentiary non-carbon emitting documentation.
Reporting / Alternative Compliance Payment	MLPs shall file an annual report demonstrating compliance. If an MLP fails compliance, it shall make an alternative compliance payment (ACP). This ACP shall not exceed \$0.010 / kWh. This ACP shall be deposited into an MLP maintained and administered fund and shall be used by the MLP to fund greenhouse gas emissions reduction and related programs in its service territory. RMLD shall establish this fund effective the date of the Legislation.

RMLD POLICY 30

ATTACHMENT 2 – Update History of Attachment 1

<i>Update</i>	<i>Effective Date</i>	<i>Exclusion/ Change</i>	<i>Description</i>	<i>Recommended by General Manager and approved by BOC and CAB (vote and date)</i>
0	02/24/2021	New	Attachment 1 created to reflect MLP GGES pending Legislation that will apply to MLPs.	02/24/2021
1	02/24/2021	Exclusion	Insert under Sources Provision, Item 10, next to the word biomass (The RMLD Board of Commissioners approves the exclusion of future wood burning biomass as an acceptable non-carbon or greenhouse gas reduction resource of generation under this Policy)	02/24/2021

RMLD Policy No. 30
RENEWABLE NON-CARBON AND GREENHOUSE GAS (GHG)
REDUCTION REGARDING POWER SUPPLY PROCUREMENT

Revision No. ~~21~~

Commission Vote Date

~~I.~~ **General Manager/Date** **Next Review Date**

~~II.~~ **PREAMBLE**

- ~~A.~~ Established in 1894, Reading Municipal Light Department is a public power, not for profit electric utility that serves its four communities.
- ~~B.~~ Public power means local control and local decision making. Our customers help determine our electric rates and the policies and programs that meet local needs.
- ~~C.~~ RMLD's electric rates reflect our customers' priorities as expressed in RMLD's Customer Satisfaction Surveys and adopted Mission and Vision statements:
 - ~~a.~~ Reliability — Customers expect and value excellent electric reliability.
 - ~~b.~~ Low Cost of Electricity — Customers value low cost electricity.
 - ~~c.~~ Greenhouse Gas Reduction Goals — Our environmentally-conscious community wants RMLD to set greenhouse gas reduction goals while having little to no impact on rates.
 - ~~d.~~ RMLD's electric rates also reflect RMLD's franchise obligations. As a municipal light plant, RMLD is a public service corporation, having a legal franchise obligation to provide low cost, reliable electric service to its ratepayers.
- ~~D.~~ Consistent with RMLD's customers' priorities and its franchise obligations, the RMLD adopts the following Policy addressing renewable and sustainable energy:

~~III.~~ **PURPOSE**

- ~~A.~~ To establish general policy guidelines to aggressively pursue practical and cost-effective renewable non-carbon and GHG ~~reduction~~ power supply opportunities that balance RMLD's customers' priorities, its franchise obligations, reliability, power supply risk mitigation, and financial risk mitigation, while complying with applicable laws and regulations ~~pertaining to GHG power procurement requirements~~
- ~~B.~~ To provide an opportunity for customers who wish to go above and beyond RMLD's ~~other greenhouse gas reduction~~ non-carbon energy goals and requirements.

~~IV. RESPONSIBILITIES~~

~~A. RMLD Citizens' Advisory Board~~

- ~~1. Review and comment expeditiously on power purchase contracts recommended by the General Manager under this Policy.~~

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- ~~B. RMLD Board of Commissioners~~
 - ~~1. Responsible for approving this Policy every three years by December 31 of the third year.~~
 - ~~2. Review and comment expeditiously on power purchase contracts recommended by the General Manager under this Policy.~~
 - ~~3. Review, deliberate and vote on deviations and changes to this Policy.~~

- ~~C. General Manager~~
 - ~~1. Responsible for implementing this Policy.~~
 - ~~2. Present power purchase contracts covered by this Policy to the RMLD Citizens' Advisory Board and the RMLD Board of Commissioners for review and comment.~~
 - ~~3. Present monthly updates to the RMLD Board concerning the RMLD's compliance and ability to comply with this Policy and any deviations or changes established by the RMLD Board, which will include impacts on cost and reliability.~~

~~V.~~II. POLICY ELEMENTS

- ~~A.~~ The RMLD shall comply with all laws applicable ~~law~~ to Municipal Light Plants, pertaining to renewable, non-carbon, and GHG reduction power procurement requirements, including ~~, but not limited to, so-called Roadmap 2050~~ 2021 Climate Bill requirements, while balancing its customer priorities and franchise obligations. ~~The~~ RMLD shall strive to make incremental changes on an annual basis, especially certificate retirement targets, where possible, to mitigate potential rate shocks. Roadmap 2050 2021 Climate Bill requirements that are applicable as of the date of this Policy are attached hereto as Attachment 1.

- ~~B.~~ RMLD remains committed to supporting the Commonwealth's goals for Green House Gas (GHG) reduction and electrification, in the context of RMLD's customer obligations and RMLD's Mission.

- ~~C.~~ RMLD will continue to improve its utility operations, including power supply, to support the Commonwealth's goals of reducing GHG emissions. RMLD has a unique mix of location, geography and demographics. Given this context, RMLD will apply its unique capabilities to proactively explore and implement new programs, business models, and technologies to contribute to the reduction of GHG in its operation as an electric utility.

- ~~C.D.~~ The RMLD shall develop the Renewable Choice Program, as an option available to all ratepayers. The Renewable Choice Program will allow RMLD customers to purchase "blocks" of Class 1-renewable energy certificates ("RECs") for an additional monthly fee. Customer REC purchases (for subsequent retirement) through the Renewable Choice Program are above and beyond RMLD's other GHG reduction power procurement goals and requirements and are intended to help customers who have stated that they would be willing to pay more. to reduce greenhouse gas emissions. The program will be developed as a tariffed rate.

~~D.E.~~ In order to balance RMLD's customer priorities and franchise obligations with compliance with all applicable laws pertaining to renewable non-carbon and GHG reduction power procurement requirements, the General Manager may retain or may market RECs as she/he deems to be in the best interest of the RMLD and in compliance with all applicable law and policy 19.

~~E.F.~~ If applicable laws pertaining to renewable non-carbon and GHG reduction power procurement change after the effective date of this Policy, the General Manager will review such changes and report to the RMLD Board on such changes and shall present for review and comment by the Board a plan for compliance with such changes that is consistent with RMLD's customer priorities and franchise obligations.

~~F.~~ The RMLD Board may vote on changes to this Policy from time to time and at a frequency of no more than every three years, and any changes to Attachment 1 shall be set forth below as shown and updated on Attachment 2.

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RMLD POLICY 30

ATTACHMENT 1 – Update

~~21~~

ROADMAP to Net-Zero Carbon by 2050

(a.k.a., S.9 or MLP GGES Legislation, amending chapter 25A)

Legislation effective (~~March 2021~~)

Provision	Key Elements
Goals	This Legislation sets a minimum percentage of non-carbon emitting energy sold by MLPs (retail sales): 2030 - 50% non-carbon emitting energy sales 2040 - 75% non-carbon emitting energy sales 2050 - net-zero greenhouse gas emissions energy sales
Sources	In this Legislation, “non-carbon emitting” is defined as energy generated from: (1) solar photovoltaic; (2) solar thermal electric; (3) hydroelectric, including imports (4) nuclear; (5) marine or hydrokinetic energy; (6) geothermal energy; (7) landfill methane; (8) anaerobic digester gas; (9) wind energy; (10) biomass (The RMLD Board of Commissioners approves the exclusion of future wood burning biomass as an acceptable <u>renewable non-carbon</u> or greenhouse gas reduction resource of generation under this Policy); and (11) any other generation qualifying as special cases per this Legislation. <u>Note that RMLD will explore other generation technologies that are compliant with MGL CH 25A, Section 11f3/4, including carbon capture fuel cells, hydrogen system, and low-temperature geothermal general systems.</u>
Make / Buy	MLPs may either purchase or generate non-carbon emitting energy. Existing energy supply contracts that meet Legislation requirements count as compliance.
Certificates	Qualification requires the MLP retirement of certificates for these energy retail sales. These certificates consist of <u>renewable non-carbon</u> energy credits, emission-free energy certificates, or other evidentiary non-carbon emitting documentation.
Reporting / Alternative Compliance Payment	MLPs shall file an annual report demonstrating compliance. If an MLP fails compliance, it shall make an alternative compliance payment (ACP). This ACP shall not exceed \$0.010 / kWh. This ACP shall be deposited into an MLP maintained and administered fund and shall be used by the MLP to fund greenhouse gas emissions reduction and related programs in its service territory. RMLD shall establish this fund effective the date of the Legislation.

RMLD POLICY 30

ATTACHMENT 2 – Update History of Attachment 1

***Recommended
by General
Manager and
approved by
BOC and CAB
(vote and date)***

<i>Update</i>	<i>Effective Date</i>	<i>Exclusion/ Change</i>	<i>Description</i>	
0	02/24/2021	New	Attachment 1 created to reflect MLP GGES pending Legislation that will apply to MLPs.	02/24/2021
1	02/24/2021	Exclusion	Insert under Sources Provision, Item 10, next to the word biomass (The RMLD Board of Commissioners approves the exclusion of future wood burning biomass as an acceptable renewable <u>non-carbon</u> or greenhouse gas reduction resource of generation under this Policy)	02/24/2021

POLICY 19 REVISION MEMO

RMLD Board of Commissioners Meeting
January 31, 2024
Policy 19 Board of Commissioners
Proposed revisions relative to Policy 30 removals



Please find below proposed verbiage to be incorporated into Policy 19 Board of Commissioners so as capture verbiage removed from Policy 30 Non-Carbon Power Portfolio Mix (Revision 2). The intent is to capture the Responsibilities of the Board of Commissioners in one location to minimize conflicting text.

Policy Review

- Board of Commissioners:
Responsible for reviewing all policies under a 3-year review cycle. Policies may be reviewed at any time at the Board of Commissioners request, at the recommendation of the General Manager, and in response to internal procedure or federal/state legislation changes.
- General Manager
Responsible for periodically reviewing all policies and applicable laws/regulations and making recommendations to the Board of Commissioners for changes to the policies.
- Citizens' Advisory Board (CAB)
Has the right to make recommendations on Board of Commissioner policies relative to its responsibilities as specified in Paragraph 9 and Attachment 4 of the "20 Year" Agreement. CAB Policy 1 outlines the responsibilities of the Citizens' Advisory Board relative to CAB policy review.

Policy Approval/ Implementation

- Board of Commissioners
Approves policies governing RMLD to be implemented and discharged by the General Manager within the constraints of M.G.L. c. 164 and other applicable statutes and regulations.
- General Manager
Responsible for the implementation, oversight, and enforcement of all RMLD policies.
- Citizens' Advisory Board
Has no authority to approve or implement Board of Commissioner/RMLD policies. CAB Policy 1 outlines the responsibilities of the Citizens' Advisory Board relative to CAB policy approval.

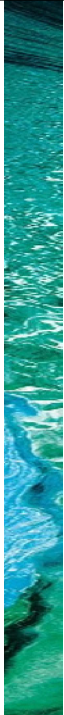
Power Supply

- Board of Commissioners
Approves long-term power supply contracts and agreements, unless otherwise voted through a strategic risk mitigation plan, i.e., ("TFA") and approves annual certificate retirement targets.
- Citizens' Advisory Board
Provides decision-making input to the Board of Commissioners on issues concerning long term power supply contracts and agreements and annual certificate resource mix targets

Reporting

- General Manger will present quarterly updates to the Board of Commissioners and Citizens' Advisory Board concerning the RMLD's legal and regulatory compliance regarding power supply portfolio, including certificate management and impact of new or changed legislation.

ATTACHMENT 3
RMLD RATES



Monthly Bills and Rates Effective March 2024

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

31 January 2024

Rates – goals and objectives

updated

goals

Design rates to **cover cost** of providing service

Allocate costs fairly, based on rate class characteristics

Provide funds for **efficiency and electrification incentives**

Offer customers better understanding and **control of energy use**

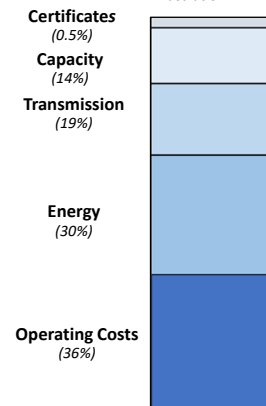
Comply with DPU, statutory, and RMLD policies

process *(annual analysis in current volatile market)*

- 1) Clarify outcomes, behaviors
- 2) Forecast loads, retail sales by class
- 3) Forecast base costs and power supply pass through costs
- 4) Review cost drivers by rate classes
- 5) Allocate costs across rates classes
- 6) Refine allocations
- 7) Update rates

2024 cost structure

illustration



3 source: RMLD analysis and forecasts; 2024 budget;

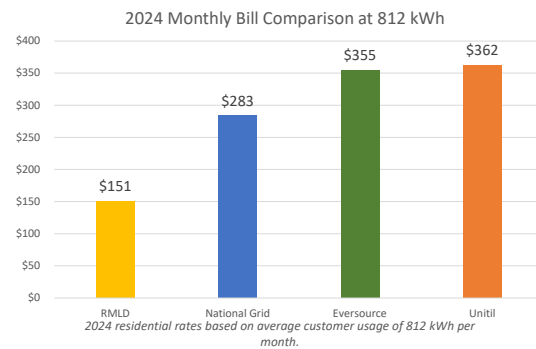
2024 RMLD monthly bills – 3.2% average increase ^{updated}

RMLD forecasts 2024 monthly bills to increase an average 3.2%

Two key variables drive monthly bills

- 1) Customer monthly electric usage (kWhs)
- 2) Rate elements (power supply costs, ...)

Actual 2024 monthly bills will reflect actual monthly usage and pass through power supply costs



Summary of monthly bill changes – March 2024

updated

total average monthly bill – effective March 2024

	2023 current	March 2024 estimated	\$ change	% change	current 2023 net \$/kwh	estimated March 2024 net \$/kwh
Residential A	\$ 148	\$ 151	\$ 2.96	2.0%	\$ 0.1819	\$ 0.1855
Residential TOU A2	\$ 125	\$ 130	\$ 4.11	3.3%	\$ 0.1545	\$ 0.1595
Commercial C	\$ 1,096	\$ 1,131	\$ 35.36	3.2%	\$ 0.1600	\$ 0.1652
Industrial TOU	\$ 30,241	\$ 31,698	\$ 1,456.77	4.8%	\$ 0.1506	\$ 0.1578
Municipal C	\$ 603	\$ 623	\$ 19.95	3.3%	\$ 0.1540	\$ 0.1591
School	\$ 4,603	\$ 4,675	\$ 72.15	1.6%	\$ 0.1431	\$ 0.1453
				3.2%	revenue weighted average	

Effective March 2024 – overall average 3.2% higher compared to 2023

5

source: Rate and Analysis by Cost Stream v35 2024-01-19

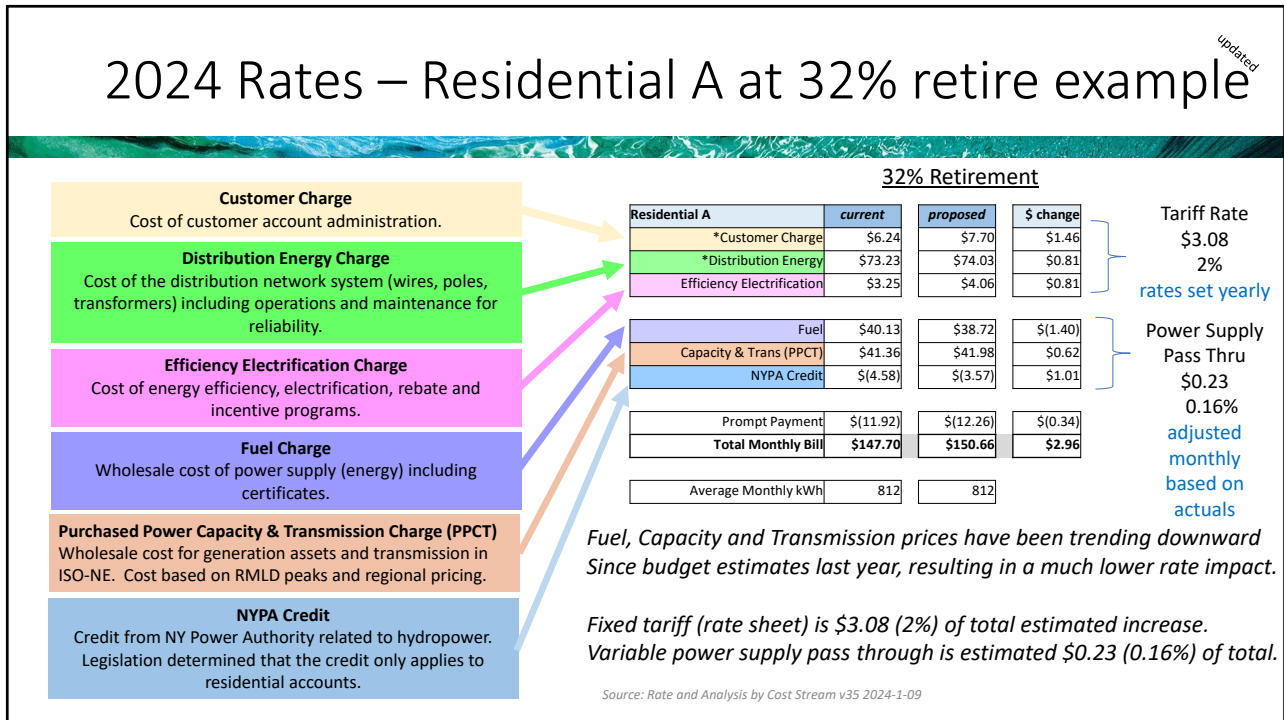
Effective March 2024 bills

updated

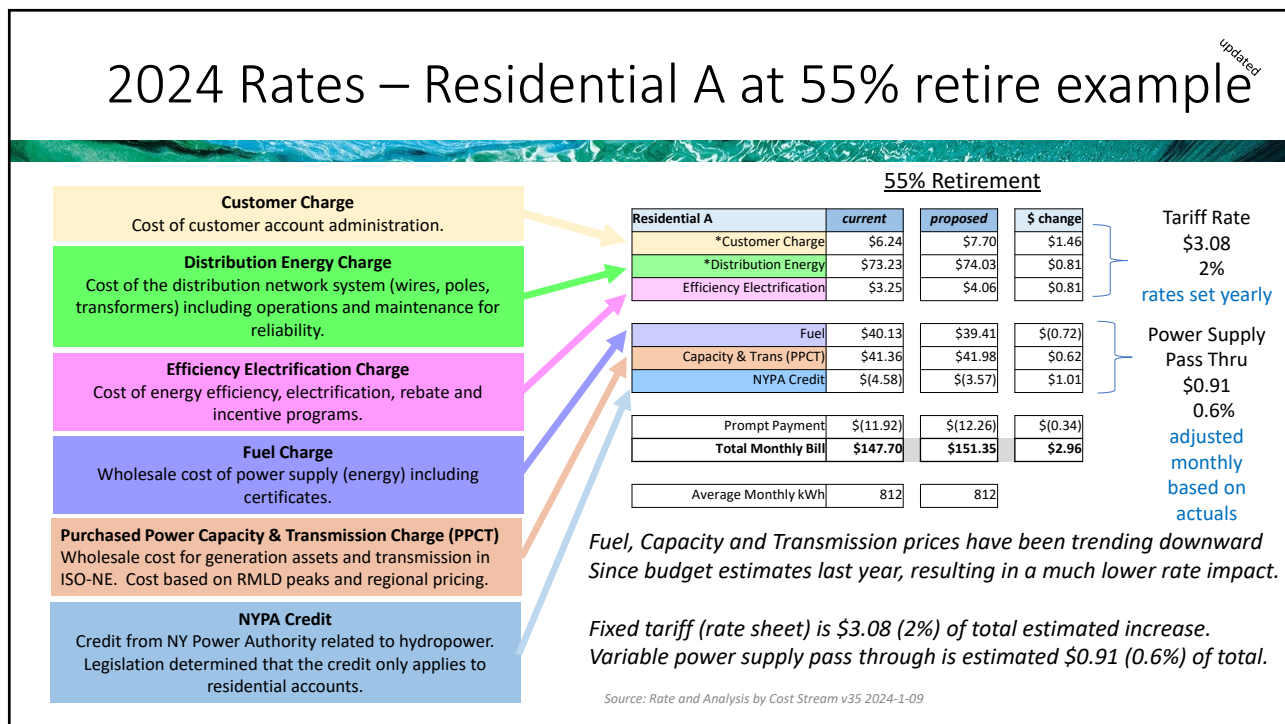
current MDPU	new MDPU	description	total monthly change	notes and key drivers
247		Municipal Street Lighting Schedule F Formula Rate	no change	
275		Backup and Standby Rate	no change	
285		Cooperative Resale Schedule G Rate	no change	
286		Residential Customer Owned Generation Under 20kW	no change	evaluating facilities charge and higher credit for exported kWh
287		Commercial/Industrial Customer-Owned Generation	no change	
288		Purchase Power Capacity and Transmission Charge	market	pass through cost
289		Private Street Lighting Rate Schedule D	no change	
290		Municipal LED Street Lighting Rate	no change	
291		Standard Fuel Charge Clause	market	pass through cost
294		Renewable Choice	no change	
295		Solar Choice Rider	adjusted semi-annually	monthly credits
306		Electric Vehicle Supply Equipment Schedule EVSE Rate	0%	
307		Economic Development	no change	
308		Coincident Peak - Large Industrials	no change	
301	309	Residential Schedule A Rate	2.0%	base rate, EEC
302	310	Residential Time of Use Schedule A2 Rate	3.3%	base rate, EEC
303	311	Commercial Scheduled C Rate	3.2%	base rate, EEC
304	312	Industrial Time of Use Schedule I Rate	4.8%	base rate, EEC
305	313	School Schedule SCH Rate	1.6%	base rate, EEC
292		Efficiency Electrification Charge	25%	increase \$0.004 / kWh to \$0.005 / kWh
		A3 residential TOU (EV focused)	future	update, approve, and release

Total monthly bill increase estimated at 3.2%

2024 Rates – Residential A at 32% retire example updated



2024 Rates – Residential A at 55% retire example updated



Thank You



ATTACHMENT 4
CERTIFICATE MANAGEMENT



Certificate Management

31 January 2023 BoC / CAB update

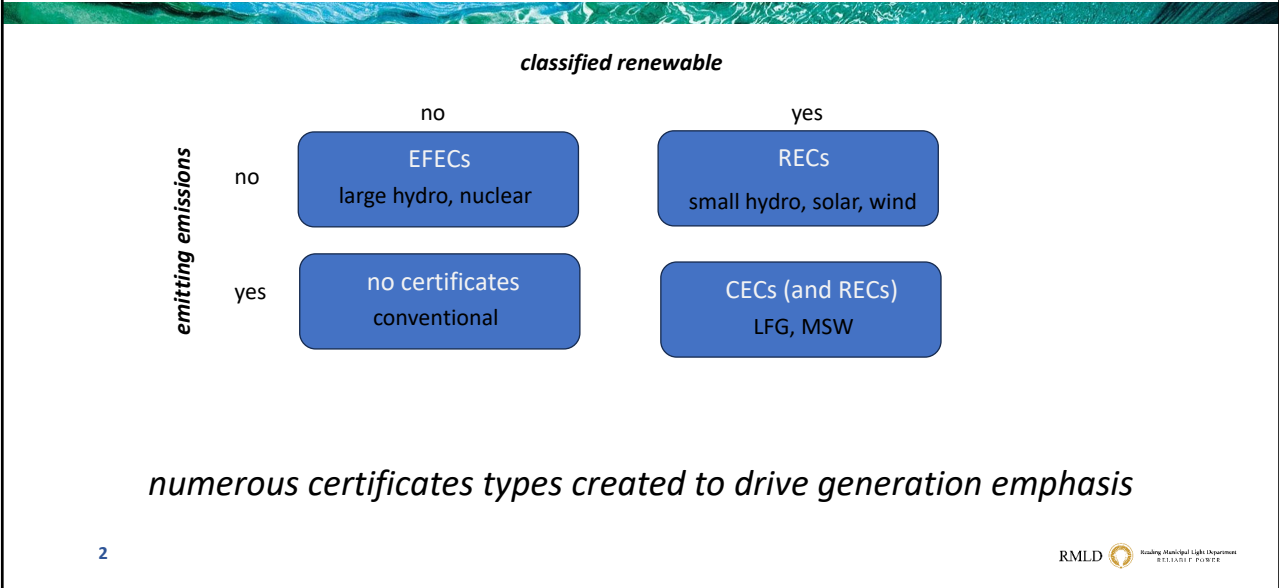
RMLD



Reading Municipal Light Department
RELIABLE POWER

Many Types of Certificates

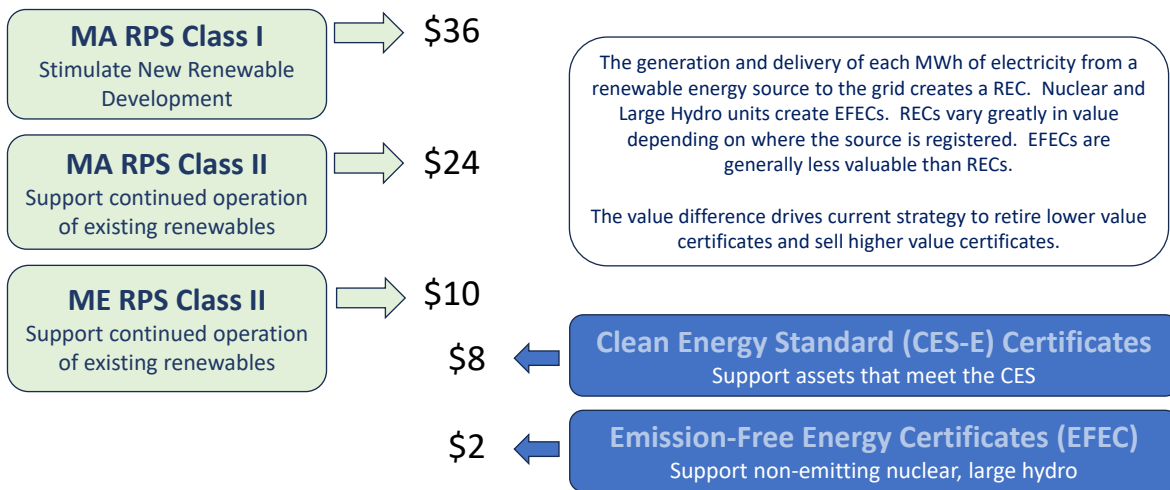
from 13 Dec 2023 BoC
CAB presentation



numerous certificates types created to drive generation emphasis

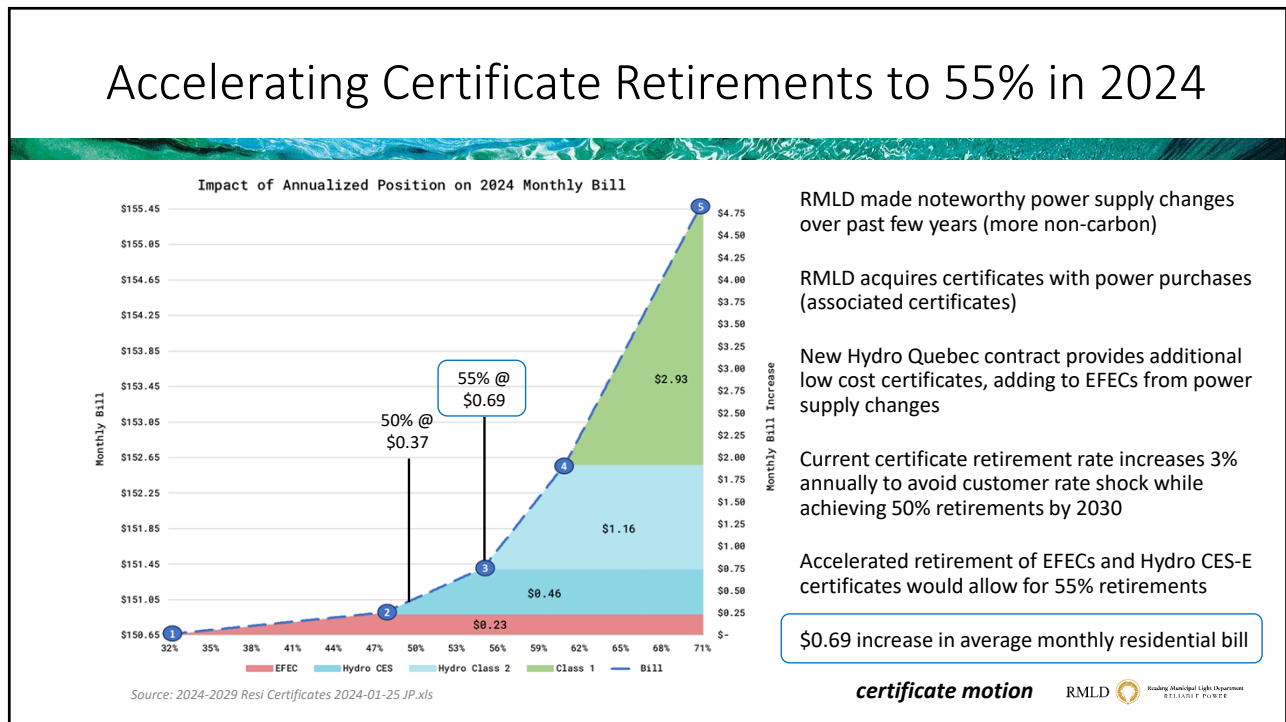
Certificate Purpose and Market Prices

updated



3 Source(s): prior RMLD presentations, internal analysis, Spectra Market Reports

Accelerating Certificate Retirements to 55% in 2024



RMLD made noteworthy power supply changes over past few years (more non-carbon)

RMLD acquires certificates with power purchases (associated certificates)

New Hydro Quebec contract provides additional low cost certificates, adding to EFECs from power supply changes

Current certificate retirement rate increases 3% annually to avoid customer rate shock while achieving 50% retirements by 2030

Accelerated retirement of EFECs and Hydro CES-E certificates would allow for 55% retirements

\$0.69 increase in average monthly residential bill

certificate motion

RMLD  Reading Municipal Light Department
RELIABLE POWER

Thank You
from the RMLD Team




RMLD



Reading Municipal Light Department
RELIABLE POWER

Department
of CE


ATTACHMENT 5
IN TERRITORY GENERATION
ROAD MAP



In Territory Roadmap Energy Storage and Generation

31 January 2024

RMLD



Reading Municipal Light Department
RELIABLE POWER

Outline

Executive summary

Mission and vision

Electrification doubling load

In territory options

- a) energy storage
- b) low temperature geothermal
- c) solar
- d) carbon capture fuel cell

Milestones

Executive summary – in territory generation

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

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

Near-term, regional wholesale network supply reliability is increasingly fragile

- Timing of traditional generation decommission (before commissioning of non-carbon replacement generation)
- New transmission required to support replacement generation with is more distributed than traditional generation

Wholesale energy and transmission costs are increasing, and energy pricing is increasingly volatile

- As a result, RMLD costs will increase to support electrification load growth and associated buildout
- In territory generation is now viable (lower cost than wholesale forecasts)

2021 Climate Law accelerates electrification as part of decarbonization; no softening of legislative targets is expected

- Hence, RMLD load will double, and demand will increase 60% by 2050

Hence, RMLD needs significant investment (in territory generation / storage, data analytics, distribution, metering, IT, ...)

- In-territory generation and energy storage require support RMLD's decarbonization strategy
- RMLD has new access to tax credits and numerous grants (new funding sources)
- RMLD is large enough to have resources while small enough to be nimble
- RMLD is a representative microcosm of region → lessons, experiences, and solutions can be scaled and are transferable
- RMLD is partnering with solution providers and the Commonwealth

RMLD mission and vision

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

Mission

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

Vision

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

Context – in territory storage and generation

Reliability enhanced via in territory energy storage and generation assets

- Regional wholesale more fragile
- More direct control (and responsibility)
- In territory generation targeted to support ~40% of load by 2040

Favorable economics for in territory generation

- Wholesale costs increasing (energy, transmission, capacity, certificates)
- New funding sources (state / fed grants, tax credits, vendor contributions)
- RMLD has scale to implement

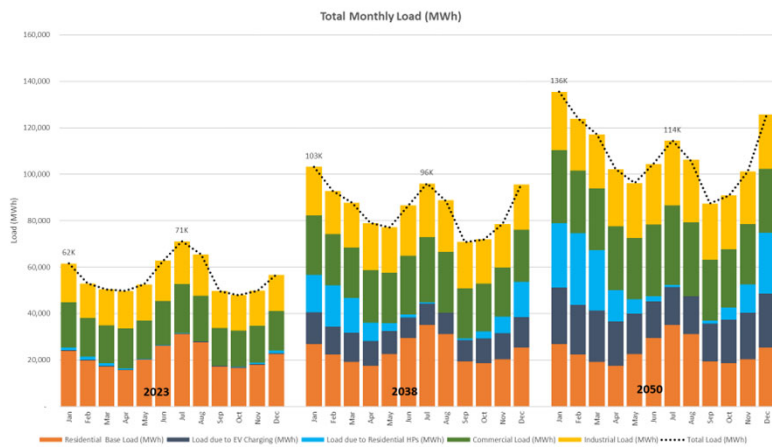
Compliant (2021 Climate Bill → non-carbon electricity sales 50% by 2030, 75% by 2040, and net zero by 2050)

- Actual lower CO2 emissions, well ahead of compliance targets
- Clean energy certificates produced by a fuel cell with >90% carbon capture provides compliance pathway in the near term
- Carbon captured fuel cells compliant for life of assets (>20 years)

Generation asset timing

- First 20 MW base load gen commissioned 2026
- Additional 3 MWs of RMLD owned rooftop solar PV commissioned in 2026, then Maple Meadows solar PV (7 MW) in 2027
- Additional 20 MW base load gen commissioned in 2032, followed by two additional units in mid 2030's

RMLD load doubles by 2050 – 2.5% cagr



Winter (January) highest load beginning in 2030's primarily due to ASHP and EV load additions; doubling winter load by 2050

Summer load 60% higher by 2050

- Industrial 1.5% cagr
- Commercial 1.8% cagr
- ASHP Residential 12% cagr (75% conversion by 2050)
- EV Residential 17% cagr (95% adoption by 2050)
- Base Residential 0.5% cagr

RMLD forecast consistent with ISO NE 2050 Transmission Study and ISO NE 2023 CELT forecast

6 Source: long-term-forecast 2023-10-02; 2023 CELT; RMLD analysis; actual RMLD 2022 is base year; 2023 CELT shows 2.3% cagr 2023 - 2032



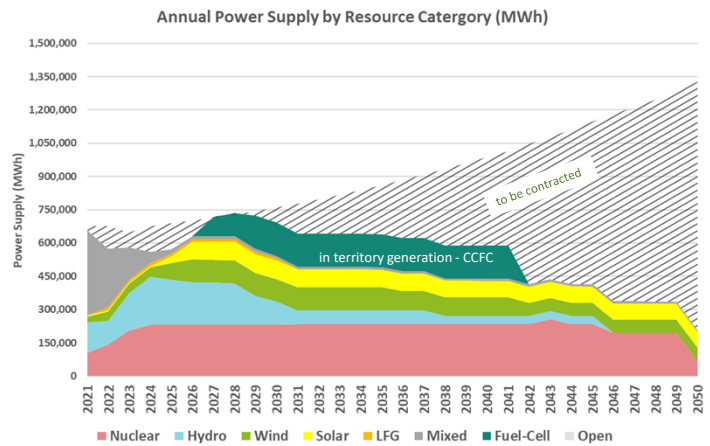
RMLD power supply to meet load - reliability

Power supply portfolio adjusted regularly to meet RMLD mission

“to be contracted” can be filled with:

- a) real-time open market purchases
- b) day ahead open market purchases
- c) new contracts
- d) in territory generation

Favorable economics and non-carbon goals prompts new **in territory** energy storage and generation



7 source: Energy Position MASTER 2X with dashboards 2023-09-25

Energy storage – key puzzle piece

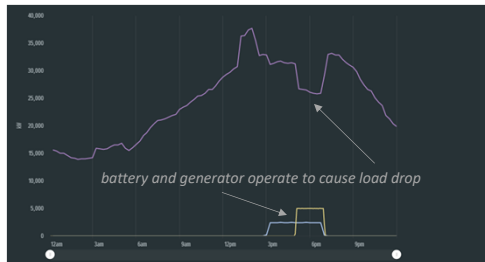


Storage systems *time shift* energy (ex. afternoon solar to evening use)

Time shifting enables benefits:

- a) **Economic** (coincident ISO NE / RMLD peak management)
- b) **Reliability** (network hot spots)
- c) **Resiliency** (limited backup)

Storage systems are not generators



RMLD adding ~30 MW (2-3 hour) of battery storage

- Existing 5 MW at Station 3 - 2019
- New mobile 500 kw at Station 2 - 2024
- New 10 MW on Fordham Road - 2024
- New 10 MW at Station 3 - 2025
- Planning 10 MW at Station 6 – 2026
- Exploring 2.5 MW (10 hour) - grant submitted
- Exploring 10 MW (100 hour) - analysis in process

Energy storage – important component of reliability, low-cost, non carbon mission and decarbonization

In territory generation options for RMLD

2036



Hydrogen for electricity generation

- Early years of development
- Expensive until technology advances
- Generation / distribution challenged
- Exploring pilot at RMLD Station 3

not likely

Small Nuclear Reactor (SMR)

- Better suited for existing / former sites
- Commercialization mid-2030's
- Not likely an in territory option



not likely



Utility scale wind

- Onshore wind requires tall towers
- Majority of RMLD territory populated
- Not likely an in territory option

Although viable regionally and part of the RMLD's power supply portfolio, nuclear, wind, and hydrogen are not likely for in territory generation

In territory generation options for RMLD (cont)

2015 - 2027

Solar PV (landfill, industrial rooftops, muni rooftops, some resi)

- Great economics, low operating costs
- Very limited land for solar in RMLD (40 MW in territory maximum)
- 40 MW generates 60,000 MWHs annually (< 10 % of current total)



2026

Carbon captured fuel cells

- Fuel cell technology well established
- Adding carbon capture is new
- Compliant – CES (emissions-based program)
- Viable bridge solution to fully non-carbon

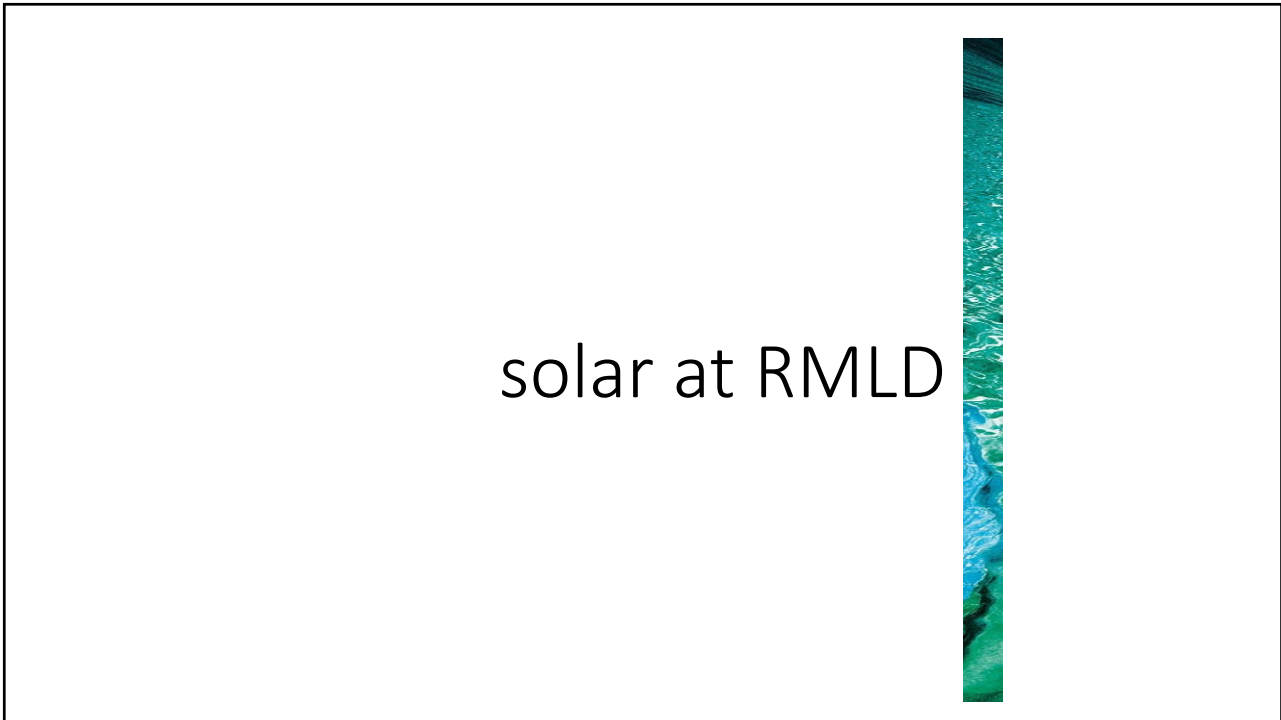


2034

Low temp geothermal for electricity generation

- High temp proven (3,700 MWs operating in US)
- Fundamental process /technology established
- Commercially viable 8-12 years out





Little room for much additional solar at RMLD

	<i>location</i>	<i>on-line</i>	<i>MW AC</i>	<i>annual output (MWHs)</i>
<i>installed</i>	Burlington Ave	2015	2.0	2,978
	Ballardvale Road	2017	1.0	1,489
	Fordham Road	2017	1.7	2,532
	Residential roof top	2010 - ongoing	2.0	2,978
	Commercial roof top	2011 - ongoing	2.5	3,723
	subtotal		9.2	13,701
<i>in planning</i>	new Maple Meadows	2026	7.5	11,169
	new Lynnfield Water	2026	2.5	3,723
	new Town buildings	2025	1.5	2,234
	other industrial roof PV	2028	7.5	11,169
	other PV (ground, canopy, ...)	2028	12.0	17,870
	grand total		40.2	59,866

Solar PV is viable for RMLD (good economics, non-carbon, ...)

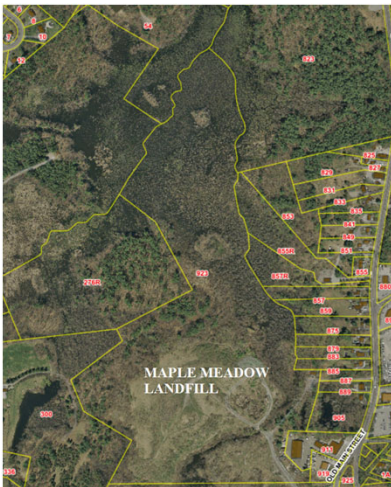
Solar PV requires horizon area (limited locally)

Local solar PV has very low capacity factor due higher latitude

Bottom-line, RMLD will max out solar, supplying 5-10% of total load

12 source: in territory assets 2024-01-23

Maple Meadow – RMLD can unlock community value



13

75 acre site with challenged history (former landfill, in limbo, taxes, ...)

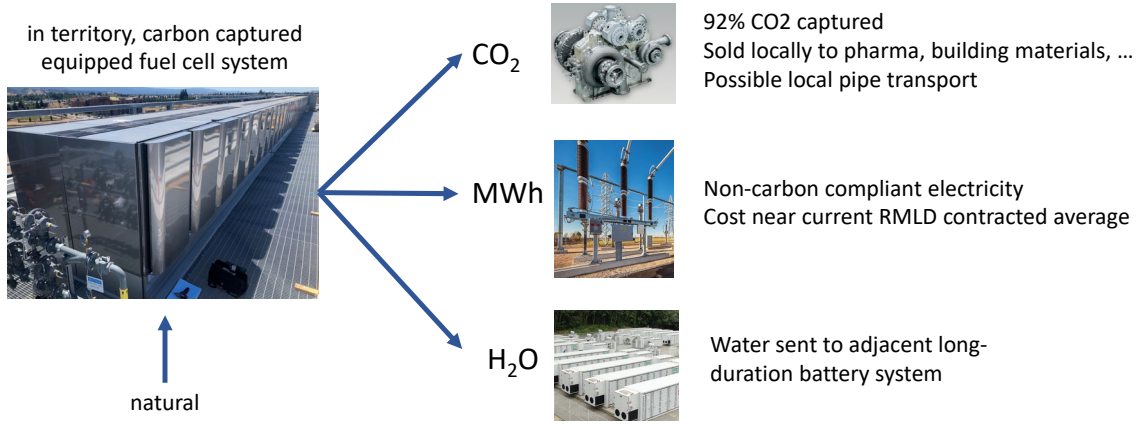
But RMLD uniquely positioned to create value for all parties:

- Solar PV
 - ~7 MW solar PV, within territory generation
 - Persuasive economics
 - Many hurdles
- Storage – battery, fly wheel, ...
 - 10 MW linked to solar PV (time shifting, peak management, economics)
 - 30 – 60 ME battery storage tied to transmission system (SATO)
- Fourth transmission tie point (southern substation)
 - Increase resiliency, PTF eligible (reimbursement)
 - Support electrification load growth
- Future non-solar generation site
 - Low-temp geothermal for electricity generation
 - Hydrogen

carbon capture fuel cell
(CCFC)



CCFC output management

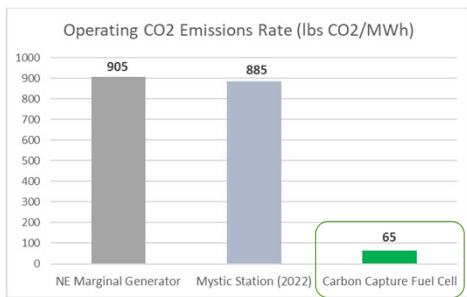


15

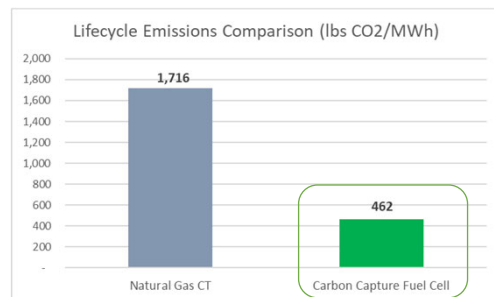
RMLD envisions a local business microcosm that fully utilizes all outputs as bridge solution

Carbon Capture Fuel Cell – CO₂

Carbon capture equipped fuel cell system emits 7% of CO₂ captured to New England marginal generator



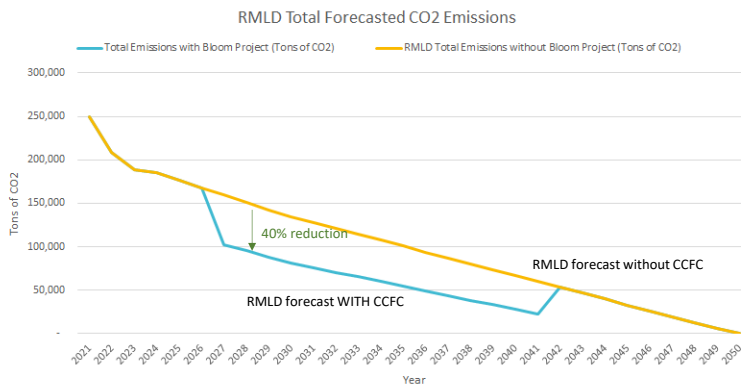
Carbon capture equipped fuel cell system 73% below NGCT system in life cycle comparison



Although not zero, carbon capture fuel cell system yields dramatic CO₂ reduction when run as base load unit (8,300 annual hours)
 73% life cycle savings enable clean energy standard (non-carbon compliant with 2021 Climate Bill)

16 source(s): 2021 EPA eGRID, EIA 2022 plant emissions, initial Bloom analysis

Result – accelerated, viable decarbonization



CCFC drops RMLD total CO2 emissions by 40% annually

CCFC generation positioned as interim step to reduce CO2 emissions; planning 15 year project with option to extend

Low-temperature geothermal and other yet to be commercialized generation technology deployed in mid 2030's

CCFC can be viable bridge technology the lowers total annual CO2

17 source: Energy Position MASTER 2X with dashboards 2023-09-25



CCFC - preliminary high-level economics

20 MW carbon capture fuel cell system

key prerequisite components

\$120 million across participants
7 acres of land
reliable fuel supply

financing

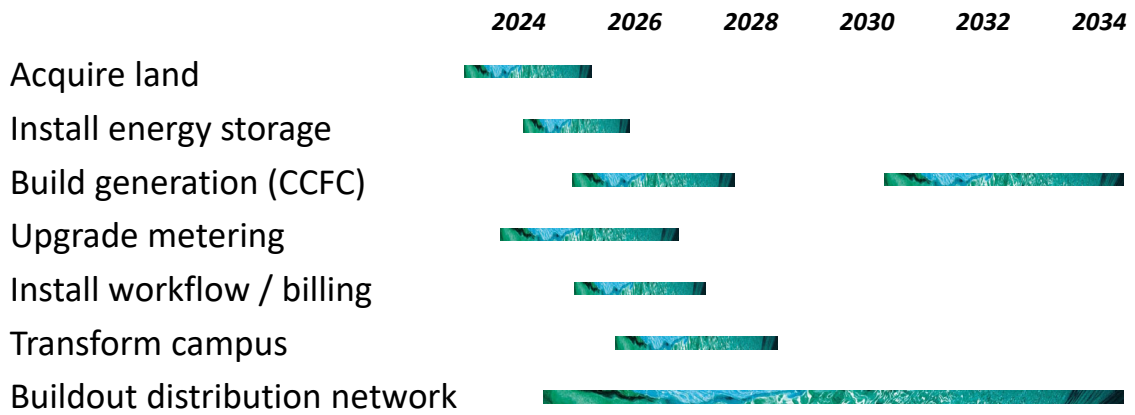
investment tax credits
discounts
bonds
grants
cash

net operating costs

\$100 / MWH
8,300 annual run hours
lots of variables

More analysis required but initial economics favorable

Investment timing – key RMLD initiatives



Thank You
from the RMLD Team



RMLD



Reading Municipal Light Department
RELIABLE POWER

Department
of Public Works

ATTACHMENT 6
GENERAL MANAGER GOALS

GM Goals - 2024

Phipps Leading RMLD Team as Player/Coach

Major GM goals, excluding day-to-day responsibilities

Vision *(strategic direction)*

- a) Update Oct 2023 strategic plan (emphasis on in territory assets)
- b) Engage legislative (MLP strategies and RMLD specific support)

Team / Personnel *(recruit, equip, motivate)*

- c) Upgrade leadership team (hire 2-3 key positions)
- d) Broaden intern / co-op program (beyond IRD)
- e) Negotiate mutually beneficial union contracts
- f) Complete transition to new work schedule
- g) Test semi-annual performance review and 360 feedback

Customers *(rate payers, new businesses, Town(s) Leadership)*

- i) Expand weatherization incentive
- j) Plan for broader TOU rollout (synched with AMI upgrade)
- k) Revamp RMLD.com (web and mobile web) and plan mobile app
- l) Recruit new large customers (run associated reliability / grid studies)
- m) Expand customer communication (ex social media, ...)
- n) Expand teamwork with newTown(s) leadership

Platform *(efficiently support electrification load growth)*

- m) Select new AMI vendor and establish milestones
- n) Secure more land to create platform options (ex Maple Meadows, Rt 125)
- o) Expand internal data analytics (add operations, deepen load forecasts, ...)

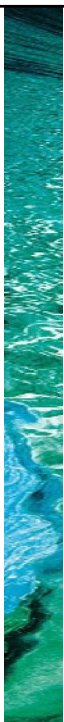
Funding *(new strategy to reflect new context and operational changes)*

- p) Map plan and take initial steps for bond based funding of generation assets
- q) Secure grant funding sources (ex grants (IJC, IRA, state, ...))

Power Supply *(increase resiliency, dampen upward cost pressure, ensure compliance)*

- m) Detail RMLD owned solar PV in territory
- n) MOU in territory base load generation asset
- o) Progress in territory generation projects (ex school, Burbank, or Maple Meadow, ...)
- r) Solidify long-duration storage partnership opportunities

ATTACHMENT 7
GENERAL MANAGER'S REPORT



General Manager Update

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

31 January 2024

RMLD Team

New Director of Operations on board and leading

Opened additional billing specialist role (backup, preparation)

Actively recruiting

- a) Director of Engineering
- b) Director of HR
- c) Director of Enterprise Data - mid 2024

Team quickly restored power during extended January storms

Current contracts expired Dec 2024

- start negotiations this summer

Employee survey delayed



2

Team remains energized

External Communications – More



Public facing outage maps during storms starting June

New Current Insights podcast posts every two week

- Episodes averaging 183 views (highest has 692 views)
- New Zoom capability will broaden guests and audience

Monthly newsletter has 63% open rate (vs 37% national average)

- Emailed to 20,000 recipients end of each month

Facebook has 1,096 followers while X has 4,785 followers

- 2-3 posts to each media every week

Quarterly webinars - 150 participants plus 200 subsequent views

Home energy evaluation kits at all four Town libraries
(instruments, samples, ...)

RMLD increasing outbound communications and exploring new avenues

3

RMLD / MLP and Transmission Buildout

Massive regional transmission buildout over next few decades

- \$20 billion on top of \$12 billion installed base
- Paid for by all rate payers (ex. transmission element of PPCT on RMLD monthly bills)

Commonwealth and IOU's want public power participation

- MLP's have positive reputation

MLP's teaming up (as ENE-T entity) to uncover MLP opportunities

- Traditionally only transmission operators participated
- MLP's may have opportunity to invest and possibly more
- RMLD one of over a dozen MLPs teaming as ENE-T

Significant economic benefit for participating MLP's

- 11% gross return on investment at 4% cost of capital
- Net 7% return to MLPs

MLP participation puts small downward pressure on total transmission cost

MLP participation promotes more transparency

Project investments will be presented to BoC / CAB as they are developed



Thank You



**MATERIALS AVAILABLE
BUT NOT DISCUSSED**

From: [Erica Morse](#)
To: [Erica Morse](#)
Subject: AP and Payroll Questions for the 2024-01-31 BoC Board Book
Date: Thursday, January 25, 2024 8:35:47 AM

AP

From December 1, 2023, through January 19, 2024, there were no Commissioner questions.

Payroll:

From December 4, 2023, through January 22, 2024, there were no Commissioner questions.

Erica Morse
Executive Assistant
Reading Municipal Light Department
O: 781-942-6489
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From: [Maureen Sullivan](#)
To: [Erica Morse](#)
Cc: [Paula O'Leary](#)
Subject: Surplus Update - December 2023
Date: Friday, December 29, 2023 12:04:36 PM

Good morning Erica,

I am sending this email to inform you that there were NO Surplus Items of Substantial Value that were disposed of in December 2023.

Thank you and Happy New Year!!

Maureen

Maureen Sullivan

Assistant Materials Manager
Reading Municipal Light Department (RMLD)
230 Ash Street
Reading, MA 01867

Tel. No. 781-942-6441

Email: msullivan@rmlld.com

Town of Reading, Massachusetts
Municipal Light Department
Statement of Net Assets
10/31/2023

	2023	2022
ASSETS		
Current:		
Unrestricted Cash	\$ 27,807,291	\$ 21,087,277
Restricted Cash	30,586,730	31,784,518
Restricted Investments	1,414,991	1,037,840
Receivables, Net	10,285,565	8,029,964
Prepaid Expenses	1,490,954	1,334,784
Inventory	3,256,815	2,503,337
Total Current Assets	74,842,346	65,777,720
Noncurrent:		
Lease Receivable	1,993,599	-
Investment in Associated Companies	990,826	964,726
Construction in Progress	879,120	385,636
Capital Assets, Net	93,858,128	90,420,159
Total Noncurrent Assets	97,721,672	91,770,521
Deferred Outflows	6,113,387	6,754,497
TOTAL ASSETS	178,677,406	164,302,738
 LIABILITIES		
Current		
Accounts Payable	6,660,804	7,892,826
Accrued Liabilities	487,900	288,703
Customer Deposits	1,771,689	1,674,331
Advances from Associated Companies	200,000	200,000
Contribution in Aid of Construction	3,414,353	2,646,415
Total Current Liabilities	12,534,747	12,702,275
Non-current		
Accrued Employee Compensated Absences	925,017	1,652,518
Net OPEB Obligation	4,269,089	4,158,698
Net Pension Liability	5,358,701	11,954,138
Total Non-current Liabilities	10,552,807	17,765,354
Deferred Inflows	9,802,918	4,327,923
TOTAL LIABILITIES	32,890,472	34,795,553
 NET POSITION		
Invested in Capital Assets, Net of Related Debt	93,858,128	90,420,159
Restricted for Depreciation Fund	11,807,821	7,644,399
Restricted for Pension Trust	7	6,837,197
Unrestricted	40,120,978	24,605,431
TOTAL NET POSITION	145,786,933	129,507,185
Total Liabilities and Net Assets	\$ 178,677,406	\$ 164,302,738

Town of Reading, Massachusetts
Municipal Light Department
Business Type Proprietary Fund
Statement of Revenues, Expenses and Changes in Fund Net Assets
10/31/2023

	Month Current Year	Month Last Year	Year to Date Current Year	Year to Date Last Year	Percent Change
Operating Revenues					
Base Revenue	\$ 2,923,120	\$ 2,223,186	\$ 30,383,045	\$ 25,544,555	18.9%
Fuel Revenue	2,370,674	3,046,303	26,294,923	31,287,354	(16.0%)
Purchased Power Capacity & Transmission	2,462,903	2,356,822	27,563,730	26,455,326	4.2%
Forfeited Discounts	104,366	45,997	766,017	668,840	14.5%
Energy Conservation Revenue	199,229	144,049	2,026,055	1,653,301	22.5%
NYPA Credit	(73,788)	(93,861)	(1,136,694)	(1,028,207)	10.6%
Total Operating Revenues	7,986,504	7,722,497	85,897,076	84,581,169	1.6%
Expenses					
Power Expenses:					
547 Purchased Power Fuel	2,107,419	1,944,238	22,437,186	28,376,797	(20.9%)
555 Purchased Power Capacity	944,398	1,152,778	12,773,916	12,376,664	3.2%
565 Purchased Power Transmission	1,706,126	1,305,749	12,362,984	14,261,674	(13.3%)
Total Purchased Power	4,757,944	4,402,765	47,574,086	55,015,135	(13.5%)
Operations and Maintenance Expenses:					
580 Supervision and Engineering	134,732	80,289	1,178,491	904,911	30.2%
581 Station/Control Room Operators	45,531	41,064	570,420	413,962	37.8%
582 Station Technicians	75,686	46,403	609,684	461,422	32.1%
583 Line General Labor	51,095	77,738	761,683	630,006	20.9%
586 Meter General	16,570	19,424	150,011	176,400	(15.0%)
588 Materials Management	60,332	40,200	444,116	368,195	20.6%
593 Maintenance of Lines - Overhead	31,384	54,863	698,255	338,852	106.1%
593 Maintenance of Lines - Tree Trimming	6,261	9,968	822,787	667,329	23.3%
594 Maintenance of Lines - Underground	6,642	10,614	69,706	193,127	(63.9%)
595 Maintenance of Line - Transformers	10,622	54,434	84,124	182,715	(54.0%)
598 Line General Leave Time Labor	40,171	83,531	466,149	416,548	11.9%
Total Operations and Maintenance Expenses	479,027	518,527	5,855,425	4,753,467	23.2%
General & Administration Expenses:					
903 Customer Collections	140,166	100,739	1,160,810	960,251	20.9%
904 Uncollectible Accounts	3,333	5,000	33,333	50,000	(33.3%)
916 Energy Audit	94,780	48,553	701,397	691,810	1.4%
916 Energy Conservation	144,185	73,526	1,558,282	1,110,401	40.3%
920 Administrative and General Salaries	207,495	133,485	2,010,068	1,687,052	19.1%
921 Office Supplies and Expense	222	1,629	14,566	12,819	13.6%
923 Outside Services - Legal	52,785	80,394	278,028	402,265	(30.9%)
923 Outside Services - Contract	5,625	33,602	313,300	250,292	25.2%
923 Outside Services - Education	25,641	17,651	113,927	52,417	117.3%
924 Property Insurance	27,478	32,768	389,596	348,984	11.6%
925 Injuries and Damages		4,773	77,729	20,877	272.3%
926 Employee Pensions and Benefits	250,273	311,675	3,443,934	3,275,897	5.1%
930 Miscellaneous General Expense	27,300	14,397	335,640	287,752	16.6%
931 Rent Expense	36,503	13,900	188,989	188,426	0.3%
933 Vehicle Expenses	13,170	43,623	263,634	244,183	8.0%
933 Vehicle Expenses - Capital	(39,293)	(29,913)	(347,788)	(332,628)	4.6%
935 Maintenance of General Plant	27,783	29,896	598,967	452,605	32.3%
935 Maintenance of Building & Garage	64,561	69,751	662,950	773,714	(14.3%)
Total General & Administration Expenses	1,082,008	985,449	11,797,361	10,477,117	12.6%

Town of Reading, Massachusetts
Municipal Light Department
Business Type Proprietary Fund
Statement of Revenues, Expenses and Changes in Fund Net Assets
10/31/2023

	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	421,450	4,353,534	4,214,501	3.3%
408 Voluntary Payments to Towns	152,217	143,387	1,522,178	1,433,870	6.2%
Total Other Expenses	<u>587,571</u>	<u>564,837</u>	<u>5,875,712</u>	<u>5,648,371</u>	<u>4.0%</u>
Operating Income	1,079,954	1,250,919	14,794,491	8,687,079	70.3%
Non Operating Revenues (Expenses):					
419 Interest Income	70,101	30,461	727,640	180,621	302.9%
419 Other	153,831	147,852	486,324	709,550	(31.5%)
426 Return on Investment to Reading	(211,551)	(210,620)	(2,109,923)	(2,082,734)	1.3%
426 Loss on Disposal					0.0%
431 Interest Expense	(4,098)	(2,016)	(40,907)	(20,136)	103.2%
Total Non Operating Revenues (Expenses)	<u>8,284</u>	<u>(34,323)</u>	<u>(936,866)</u>	<u>(1,212,699)</u>	<u>(22.7%)</u>
Change in Net Assets	1,088,238	1,216,597	13,857,625	7,474,380	85.4%
Net Assets at Beginning of Year	131,929,309	122,032,806	131,929,309	122,032,806	8.1%
Ending Net Assets	<u>\$ 133,017,547</u>	<u>\$ 123,249,402</u>	<u>\$ 145,786,933</u>	<u>\$ 129,507,185</u>	<u>12.6%</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
10/31/2023

	Actual Year to Date	Budget Year to Date	OVER/UNDER \$	OVER/UNDER %
Operating Revenues				
Base Revenue	\$ 30,383,045	\$ 26,763,519	\$ 3,619,526	13.5%
Fuel Revenue	26,294,923	34,255,027	(7,960,105)	(23.2%)
Purchased Power Capacity & Transmission	27,563,730	28,763,323	(1,199,593)	(4.2%)
Forfeited Discounts	766,017	802,906	(36,889)	(4.6%)
Energy Conservation Revenue	2,026,055	1,667,500	358,555	21.5%
NYPA Credit	(1,136,694)	(968,333)	(168,360)	17.4%
Total Operating Revenues	\$ 85,897,076	91,283,942	(5,386,866)	(5.9%)
Expenses				
Power Expenses:				
555 Purchased Power Fuel	22,437,186	33,286,694	(10,849,508)	(32.6%)
555 Purchased Power Capacity	12,773,916	12,891,332	(117,416)	(0.9%)
565 Purchased Power Transmission	12,362,984	16,021,991	(3,659,007)	(22.8%)
Total Purchased Power	47,574,086	62,200,017	(14,625,931)	(23.5%)
Operations and Maintenance Expenses:				
580 Supervision and Engineering	1,178,491	815,366	363,125	44.5%
581 Station/Control Room Operators	570,420	423,413	147,007	34.7%
582 Station Technicians	609,684	1,114,548	(504,864)	(45.3%)
583 Line General Labor	761,683	500,629	261,054	52.1%
586 Meter General	150,011	225,204	(75,193)	(33.4%)
588 Materials Management	444,116	490,491	(46,375)	(9.5%)
593 Maintenance of Lines - Overhead	698,255	473,953	224,303	47.3%
593 Maintenance of Lines - Tree Trimming	822,787	1,324,823	(502,036)	(37.9%)
594 Maintenance of Lines - Underground	69,706	162,478	(92,772)	(57.1%)
595 Maintenance of Line - Transformers	84,124	295,866	(211,742)	(71.6%)
598 Line General Leave Time Labor	466,149	179,969	286,179	159.0%
Total Operations and Maintenance Expenses	5,855,425	6,006,740	(151,314)	(2.5%)
General & Administration Expenses:				
903 Customer Collection	1,160,810	1,083,007	77,803	7.2%
904 Uncollectible Accounts	33,333	62,500	(29,167)	(46.7%)
916 Energy Audit	701,397	892,858	(191,461)	(21.4%)
916 Energy Conservation	1,558,282	2,553,536	(995,254)	(39.0%)
920 Administrative and General Salaries	2,010,068	2,686,777	(676,709)	(25.2%)
921 Office Supplies and Expense	14,566	16,667	(2,101)	(12.6%)
923 Outside Services - Legal	278,028	654,833	(376,805)	(57.5%)
923 Outside Services - Contract	313,300	616,750	(303,450)	(49.2%)
923 Outside Services - Education	113,927	274,292	(160,364)	(58.5%)
924 Property Insurance	389,596	451,292	(61,696)	(13.7%)
925 Injuries and Damages	77,729	21,333	56,395	264.4%
926 Employee Pensions and Benefits	3,443,934	3,807,188	(363,255)	(9.5%)
930 Miscellaneous General Expense	335,640	501,167	(165,526)	(33.0%)
931 Rent Expense	188,989	176,667	12,322	7.0%
933 Vehicle Expense	263,634	324,167	(60,533)	(18.7%)
933 Vehicle Expense - Capital Clearing	(347,788)	(425,223)	77,435	(18.2%)
935 Maintenance of General Plant	598,967	557,306	41,661	7.5%
935 Maintenance of Building & Garage	662,950	826,298	(163,348)	(19.8%)
Total General & Administration Expenses	11,797,361	15,081,413	(3,284,051)	(21.8%)

Town of Reading, Massachusetts
Municipal Light Department
Business Type Proprietary Fund
Statement of Revenues, Expenses and Changes in Fund Net Assets Compared to Budget
10/31/2023

	Actual Year to Date	Budget Year to Date	OVER/UNDER \$	OVER/UNDER %
Other Operating Expenses:				
403 Depreciation	4,353,534	4,537,500	(183,966)	(4.1%)
408 Voluntary Payments to Towns	1,522,178	1,477,033	45,145	3.1%
Total Other Expenses	<u>5,875,712</u>	<u>6,014,533</u>	<u>(35,447)</u>	<u>(0.6%)</u>
Operating Income	14,794,491	1,981,239	12,709,878	641.5%
Non Operating Revenues (Expenses):				
415 Contribution in Aid of Construction	-	41,667	(41,667)	(100.0%)
419 Interest Income	727,640	250,000	477,640	191.1%
419 Other Income	486,324	591,667	(105,343)	(17.8%)
421 Intergovernmental Grants	-	75,000	(75,000)	(100.0%)
426 Return on Investment to Reading	(2,109,923)	(2,124,143)	14,220	(0.7%)
426 Loss on Disposal	-	(8,333)	8,333	(100.0%)
431 Interest Expense	(40,907)	(8,333)	(32,574)	390.9%
Total Non Operating Revenues (Expenses)	<u>(936,866)</u>	<u>(1,182,477)</u>	<u>245,610</u>	<u>(20.8%)</u>
Net Income	<u>\$ 13,857,625</u>	<u>\$ 798,762</u>	<u>\$ 13,058,862</u>	<u>1634.9%</u>