



Town of Reading Meeting Posting with Agenda

Board - Committee - Commission - Council:

RMLD Citizens Advisory Board

Date: 2021-06-03

Time: 6:00 PM

Building:

Location:

Address:

Agenda:

Purpose: General Business

Meeting Called By: Jason Small, 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:

PER GOVERNOR BAKER'S MARCH 10, 2020, ORDER SUSPENDING CERTAIN PROVISIONS OF THE OPEN MEETING LAW, G.L. c. 30A, §20, THIS MEETING WILL BE HELD REMOTELY UTILIZING WEB TECHNOLOGY.

FOR PUBLIC PARTICIPATION PLEASE EMAIL: KRYBAK@RMLD.COM. INCLUDE YOUR FULL NAME, ADDRESS, AND PHONE #

1. Call Meeting to Order – J. Small, Chair
2. Approval of Minutes – J. Small, Chair

Suggested Motion: Move that the Citizens' Advisory Board approve the minutes of the September 16, 2020, meeting as written.

3. Report from the Board of Commissioners – R. Coulter, Commissioner
4. General Manager's Report – C. O'Brien, General Manager

- Community Update
- Northeast Public Power Association (NEPPA) Annual Conference on August 22-25, 2021, at the Westin Portland Harborview, in Portland, Maine.

Suggested Motion: Move that the Citizens' Advisory Board approve travel to, and attendance at, the NEPPA Annual Conference to take place August 22-25, 2021, at the Westin Portland Harborview in Portland, Maine, for _____.

5. Presentation of 2020 Financial Audit Findings as Presented to the Audit Committee
A. Gordon, Audit Supervisor, Melanson



Town of Reading Meeting Posting with Agenda

6. Integrated Resources Report – G. Phipps, Director of Integrated Resources

Suggested Motion: Move that Citizens' Advisory Board recommend that the Board of Commissioners vote to accept the General Manager's recommendation to execute a contract after proper due diligence, with Gravity Renewables for energy, including associated certificates, from a hydro facility in New York, known as plant number four.

7. Policy 9 - Procurement Request – B. Hatch, Director of Information Technology

Suggested Motion: Move that the Citizens' Advisory Board recommend that the Board of Commissioners authorize the General Manager to move forward with the RMLD New Production Environment with Disaster Recovery Project, as presented. Staff will solicit quotes from the State contract and award contracts for the project, not to exceed \$420,000 in CY2021. This un-budgeted project will be paid from the Depreciation and Operating Funds.

8. Scheduling – J. Small, Chair

- Next CAB Meeting
- BOC Meeting Coverage

9. Adjournment – J. Small, Chair

Suggested Motion: Move that the Citizens' Advisory Board adjourn regular session.

Attachment 1 - Agenda Item 2: Approval of Minutes



Town of Reading Meeting Minutes

Board - Committee - Commission - Council:

RMLD Citizens Advisory Board

Date: 2020-09-16

Time: 6:30 PM

Building:

Location:

Address:

Session:

Purpose:

Version:

Attendees: **Members - Present:**

Mr. Jason Small, Chair (North Reading); Mr. Vivek Soni, Vice Chair (Reading); Mr. George Hooper, Secretary (Wilmington)

Members - Not Present:

Mr. Dennis Kelley (Wilmington); Mr. Joseph Markey (Lynnfield)

Others Present:

Mr. David Hennessy and Mr. Philip Pacino, Board of Commissioners
Staff: Ms. Coleen O'Brien, Mr. Hamid Jaffari, Ms. Wendy Markiewicz,
Ms. Kathleen Rybak, Mr. Charles Underhill
Public: Mr. James Satterthwaite, Reading

Minutes Respectfully Submitted By: Mr. George Hooper, Secretary

Topics of Discussion:

PER GOVERNOR BAKER'S MARCH 10, 2020, ORDER SUSPENDING CERTAIN PROVISIONS OF THE OPEN MEETING LAW, G.L. c. 30A, §20 THIS MEETING WAS HELD REMOTELY VIA ZOOM.

1. Call Meeting to Order – J. Small, Chair

Chair Small called the meeting of the Citizens' Advisory Board to order at 6:30 PM and noted the meeting was being audio recorded.

2. Approval of Minutes – J. Small, Chair
Materials: Draft Minutes from April 16, 2020.

Mr. Hooper made a motion that the Citizens' Advisory Board approve the minutes of the April 16, 2020, meeting as written, seconded by Mr. Soni. Hearing no objection, the minutes were approved as written.

3. General Manager's Update – C. O'Brien, General Manager

RMLD Response to COVID-19: Ms. O'Brien provided a COVID-19 response update. The building remains closed to the general public, and RMLD remains under full business and electric continuity. Staff continues to update EOP-20-03 for remobilization; we will be rolling back the last five staff members who have been working remotely.

Small Cell Attachments: Ms. O'Brien provided a brief review of the FCC order regarding small cell (5G) attachments. Towns should have an aesthetic policy that dovetails into the RMLD's master attachment agreement and technical specifications. Ms. O'Brien noted she has sent out (to the towns) the Norwood aesthetic policy as a template and staff have been meeting with representatives from each of the towns. When communication companies come in (to a town) the first step is going to be permitting by the towns on the application to be in the public way; they will then sign a master agreement with RMLD. RMLD wants to make sure that we are proactive in communication with the towns. Ms. O'Brien noted that the RMLD will be charging for make-ready work, an application fee, and \$270 per attachment per pole; Ms. O'Brien wanted to assure the CAB that the RMLD is recovering costs related to these attachments.

4. Financial Update: 2020 YTD thru June – W. Markiewicz, Director of Business Finance & Technology
Materials: RMLD Financial Review for period ended June 30, 2020 (presentation slides)

Ms. Markiewicz began her presentation with a review of Cash Balances as of June 30, 2020, (slide 2), which shows a balance of \$50.6m (\$22m unrestricted and \$27m restricted). Moving to Slide 3 (Accounts Receivable Aging by Months – 30 days Current), Ms. Markiewicz noted she typically reports (on accounts receivable) at 90 days. However, on a 30-day look, you can see (for 2018, 2019 and 2020) how it has changed with the COVID impact with a drop (in June) of ~6% for customers paying in 30 days. Slide 4 shows a 90-day look. Ms. Markiewicz noted that RMLD continues to do well; 90 days current is at 93.77% at the end of June; in July we come up to 94.2%, and then in August we were up over 94.7%. We are holding steady; customers are making their payments.

Ms. Markiewicz reviewed the Sick Leave Buy-Back Liability (Slide 4) noting that over the past seven years, Ms. O'Brien has worked very hard with management to try to remove a lot of the liability of the sick leave buyback; June 2016 through June 2020 shows how drastically that has changed (~\$1.2m drop over those four years).

Ms. Markiewicz then reviewed Slide 5 - Operating Revenue & Operating Expenses Comparison (January-June) noting it is not apples-to-apples for operating revenue to operating expenses because purchase power is a pass through; it is operating revenue as compared to maintenance, and general and administrative expenses. So, even though it looks like (the green columns) you are going from \$49 million down to \$39 million, you are still staying flat in your blue columns. We do not have a choice in our spending for the most part; everything continues to spend at the same level, even if revenue is coming down. It looks a little scary, but the \$3 million drop in purchase power has a big impact, and that passes right through to our customers which is a good thing. Ms. Markiewicz then reviewed Slide 7 - Operating Revenue & Operating Expenses Comparison (April through June), which shows the impact since the start of COVID; everything is holding steady. However, we are seeing some small commercial businesses close, but we are still bringing in the revenue as quickly as possible. Customers are being very proactive - calling, setting up payment plans, etc.

5. Engineering & Operations Report – H. Jaffari, Director of Engineering & Operations
Materials: Engineering & Operations Report (September 16, 2020, Presentation Slides)

Mr. Jaffari presented the Engineering & Operations Report. Mr. Jaffari noted an outage occurred (August 19) on the 4W4 circuit due to a faulted cable (Slide 2). One hundred and sixty customers were out for ~40 minutes and ~7,600 customers experienced a voltage blip. Mr. Jaffari then provided a brief review of the progress on continuing construction projects (Slides 3-5) noting we are trying to catch up with lost time due to COVID-19. Mr. Jaffari went on to review Other Projects (Slide 6). Ms. O'Brien asked (regarding the Solar Capacity Study) when we can expect information on

capacity limitations for customers installing large solar installations. Mr. Jaffari responded that the consultant will prepare a presentation to go over the capacity limits as well as what can be done when we reach the limits - what are the options for the customers. Ms. O'Brien noted, while the internal capacity study is complete, the procedure of how capacity limits may impact or limit customers and how we will address that is forthcoming. Mr. Jaffari noted an operating procedure is in draft format.

Mr. Jaffari then reviewed Maintenance Programs (Slides 7 and 8). Mr. Jaffari noted the primary metering testing (delayed due to COVID 19) will begin in October. Primary metering is being tested for accuracy as well as maintenance/replacement needs. Mr. Jaffari noted the aged transformer replacements have slowed due to COVID-19, but we are expecting to reach ~90 (replaced) by end of the year. Some of these transformer replacements are part of the area upgrade projects, where we upgrade all assets: poles, transformers, wires, etc. These upgrades have contributed to the success that we have had in improving the reliability indices. Mr. Jaffari then reviewed 2020 Capital Spending YTD through July (Slide 9). Mr. Jaffari noted that some projects (spending) have slowed because of COVID-19; we lost a few months, but hopefully we can catch up by the end of the year. Mr. Jaffari went on to review Slide 10 – Double Poles. Mr. Jaffari noted that the large area upgrades are in Lynnfield and Wilmington and that is why you see a high number of transfers in these towns. As we are completing the construction, we complete the transfers and then it goes to Verizon for their transfer. Mr. Jaffari then reviewed the RMLD Reliability Indices (slide 11). Mr. Jaffari noted RMLD is compared (to other utilities) within the class of between 12,000 to 50,000 customers. The reliability numbers are getting better and better, and that is because of the heavy maintenance programs that we started back in 2015. Slide 12 (Causes of Outages) shows the causes of outages year to date.

Mr. Jaffari then reviewed Slide 12 (New Vehicles Received). Mr. Jaffari noted the underground utility truck will be a huge help for the underground crews for the construction of underground systems. Mr. Jaffari asked if there were any questions on his presentation.

Mr. Soni asked (regarding the charging stations) how many charging stations were being installed at Analog. Mr. Jaffari responded that there were seven dual chargers. Mr. Soni asked how many charging stations RMLD has in the system? Ms. O'Brien responded that there are two dual public chargers (one dual obtained by a grant), and private chargers; Ms. O'Brien said she would send an email regarding the number system wide. Ms. O'Brien then added, regarding the RMLD fleet, that the fleet turnover meets and exceeds the DOER and green communities fuel efficiency. One of the RMLD goals, as everyone knows from last year's annual report, is electrification. We are helping customers move towards battery. For the vehicles that we just purchased, we performed an analysis on each vehicle. We went from pickup trucks to SUVs for improved mileage; capacity requirements play into cubic footage requirements to support field testing and tool equipment. The DOER categorizes exempt as over 8,500 GVW (gross vehicle weight) and non-exempt as under 8,500 GVW; both requiring levels of analysis for approved efficiency. Ms. O'Brien noted further information can be provided on the RMLD Fuel Efficiency Program for rolling stock.

6. Integrated Resources – C. Underhill, Director of Integrated Resources
Materials: IRD Slides for July 2020 (reporting period)

Mr. Underhill reviewed some of the customer programs and activities that have been modified to virtual format due to COVID 19, including the 4th Grade Art Contest (slide 2), National Drive Electric Week (slide 3), and Public Power Week (slide 4). Mr. Underhill then reviewed the Air-Source Heat Pump Program (slide 5). Abode Energy Management, which is owned and operated out of Reading, is going to be working with RMLD to give our contractors a little more information, a technical review of all the

heat pump proposals, and help customers understand the merits of different proposals. The purpose of this is to reset customer expectations to something that is very realistic in terms of what the systems will do and how they will behave.

Mr. Underhill moved on to review slides 5-10 noting we have been tracking loads very carefully. Mr. Underhill noted (as shown on slide 5) that the summer months, we have been running at the ENE forecast and ahead of 2019. Cumulative for the year (2020) is just about 3% lower sales than what we had forecast. Looking ahead, the NOAA is predicting that we are going to be in the same weather situation that we were last year, so they are expecting a warmer-than-average winter. This will likely reduce our winter sales by 2% to 3%, and if we have a warmer summer as we experienced this year, summer sales will shift up. We are looking at things being relatively in balance. Purchase Power Expense (slide 6) is running ahead of budget. This is due to lower-than-expected loads throughout New England, lower energy prices, and our transmission program has been very active and keeping our costs down. Energy Costs (slide 7) shows that costs are tracking fairly well budget-to-actual. We are a little bit below budget (~\$400,000). Capacity Costs (slide 8) have been running lower than average. While a portion of our capacity costs are fixed in the budget, a portion through sub-transmission companies like Grid and Eversource are formula rates, and because the loads are down, the formula costs are down. Mr. Underhill then spoke about Transmission Costs (slide 9). We have been very successful with keeping our loads down during the transmission peaks and that is driving those costs down. Between transmission and capacity, we are running about 2.5 million below the budget projections at this point. Actual kWh Purchase by Resources (slide 10) shows our market activity for the first five months of the year (the yellow) is below zero. Looking at June (extremely warm) and July, we see that we are back above and purchasing from the market. That is an indication of where our loads are against our contracts.

Mr. Underhill then provided an update on the Clean Energy Standard (slide 11). The Golden Bill is now called Roadmap 2050, and it is in conference committee. Once it comes out of conference committee, it will be signed by the Governor, it will become effective, and we will be looking to see what our obligation for purchasing and retiring non-carbon certificates will be for the rest of this year, as well as into 2021 - we have no prediction on that at this point. Mr. Underhill reviewed the targets for clean (or non-carbon producing) energy 2030-2050, noting those are the only three targets provided. This is different from the renewable portfolio standard and the clean energy standards which the IOUs are subject, by them having a percentage adjustment each year that they have to meet. Instead of us hitting a percentage adjustment, which is what we originally put in the Golden Bill, we are given three target years that we are obligated to hit. There really is not much in terms of definition for the periods in between those years. So, we are going to have to see what comes out and what direction we are given from the legislature.

Mr. Underhill then reviewed RMLD Power Supply: Outlook through 2040 (slide 12) noting the light green line was added, which is Roadmap 2050. The original golden line represents what we have been targeting our portfolio development towards, and the dark green line shows where the Golden Bill had us starting to catch us up to where we would need to be in 2030 for compliance. That tells us what the ramp-up period looks like. We have resources under contract to meet the 2030 obligation. We can fill in (the dotted area) with cost-effective resources – blends of nuclear power and the traditional wind and solar resources. We are in pretty good shape - the only carbon emitting resource that we have in our portfolio after 2023 is the Stony Brook Peaking units. If we want to (we have talked with NextEra), we can convert the gray bars in 2021, 2022 and 2023 to non-carbon. They will provide us EFECs out of Seabrook to cover those.

Mr. Underhill then reviewed RMLD RECs Estimated Impact on Retail Rates (slide 13) which extends (through 2030) the comparison of the impacts on retail rates between the Golden Bill and Roadmap 2050. Roadmap 2050 assumes, starting in 2025, that

we do not take action to optimize the economics of our portfolio against those obligations. So, there is still a lot that we can do to mitigate some of those impacts going forward. But, because Roadmap 2050 accelerates the acquisition of non-carbon resources, it has a higher impact on rates.

Mr. Underhill then reviewed the Clean Energy Standard Next Steps (slide 14). RMLD will develop recommendations for a compliance plan and some action items. We need to identify alternatives, their associated financial impacts, and the resource types - whether those comport with what people want to see in stewardship issues - and put together our strategic plan objectives and the IRD roadmap to integrate our existing program activity, i.e., what we are doing with electrification and efficiency programs.

Mr. Underhill then noted that an updated version of Policy 30 was provided in the packet. This begins to lay out the obligations to comply with Roadmap 2050. It is a work in progress and cannot be completed until we have the actual passed legislation and we understand what our obligations are. Chair Small asked if there were any questions.

Mr. Soni stated there are members from the communities present who have been talking about how RMLD deals with RECs. This may have been an issue addressed by the Commissioners in the past. It seems there are some public light plants that retire their RECs rather than sell them. Mr. Soni noted that Mr. Underhill has been making that information available and so it becomes a Commissioner decision about what the rate policy should be. Mr. Soni stated there are people in the community talking about not retiring the RECs, and some have approached him to say all four communities should be thinking about what their position is on RECs. Mr. Soni wants the CAB at least to be aware of it because this may be discussed with the Commissioners today (on their Agenda). Mr. Soni asked Chair Small if Mr. Satterthwaite could speak on this issue.

Mr. Satterthwaite stated that the main point is that unless a megawatt hour of electricity is covered by clean energy certificate, it is inappropriate to call it clean energy. Mr. Satterthwaite noted Mr. John Rogers, who is an expert on this, will be giving a presentation during the Board of Commissioners meeting. Those interested might want to look at the recording of the Board of Commissioners meeting or attended to see what Mr. Rogers has to say.

Chair Small asked if the new Roadmap 2050 would require the retirement of REC? Mr. Underhill responded, yes it will. What it spells out is the rate at which we need to retire RECs. We have a portfolio with access to non-carbon certificates, both RECs and EFECs (emissions-free energy certificates). Those are tied to nuclear and other non-emitting, but non-renewable resources. As we move forward, we will be able to manage our renewable energy certificate portfolio based on the guidance that we get from the Board of Commissioners. What you have is a proposed set of changes to the existing sustainability policy. It is going to become a clean energy policy, and then we will be able to adjust that based on what we get as policy direction from the Commission.

Mr. Soni asked for clarification - Roadmap 2050 would require the retirement of RECs, the Golden Bill did not require that, is that correct? Mr. Underhill responded that the Golden Bill would also have required the retirement of RECs and clean energy certificates - just at a different rate. The Roadmap has accelerated the rate of retirement of RECs. At the end of the day, the Golden Bill had a target of 80% clean energy by 2050; Roadmap 2050 takes it to 100%.

7. Scheduling: CAB Meetings & Coverage for Commissioners Meeting – J. Small, Chair

Ms. O'Brien stated staff and Board will tentatively schedule an EV Workshop in November (similar to the Solar Workshop) and invite the CAB to attend. Ms. O'Brien

asked if the November CAB meeting could start at 5:30 to accommodate the workshop. Chair Small agreed to hold off on scheduling the November meeting until we know when that workshop might be held.

The next CAB meeting was confirmed for October 15 for the 2021 Budget Review. Coverage for the October Commissioners meeting will be solicited once the date is confirmed.

8. Adjournment – J. Small, Chair

Mr. Hooper made a motion to adjourn, seconded by Mr. Vivek. **Motion carried 3:0:2** (3 in favor, 0 opposed, 2 absent).

The CAB meeting adjourned at 7:25 PM.

As approved _____

DRAFT

Attachment 2 - Agenda Item 4: General Manager's Report

NEPPA's 2021 Annual Conference

Dates: Sunday August 22 – Wednesday August 25, 2021

Website Link: [Annual Conference | NEPPA](#)

Conference Location: **Westin Portland Harborview**
Address: 157 High Street, Portland, Maine 04101
Phone Number: (207) 775-5411

Lodging: **Westin Portland Harborview**
Address: 157 High Street, Portland, Maine 04101
Phone number: (207) 775-5411

NEPPA's 2021 Annual Conference Agenda At A Glance

Agenda details are still being finalized and are therefore subject to change.

Sunday, August 22, 2021

2:00 pm **Member Value Committee Meeting**

2:00 pm **Advocacy & Reporting Committee Meeting**

2:00 pm **Registration Opens**

Monday, August 23, 2021

7:00 am **Registration, Idea Wall**

8:00 am **Keynote Address:**

9:45 am **Breakout Sessions**

General Session:

Roundtable:

Advocacy:

11:00 am **Breakout Sessions**

General Session:

Roundtable:

Advocacy:

1:00 pm **Breakout Sessions**

General Session:

Roundtable:

Advocacy:

2:30 pm **Breakout Session**

General Session:

3:45 pm **Business Meeting – NEPPA Board of Directors Election**

Tuesday, August 24, 2021

7:00 am **Registration**

8:00 am **General Session:**

Legislative Update by Meguire Whitney, LLC

9:15 am **General Manager’s Roundtable:**

Roundtable

Advocacy

Commissioner’s Roundtable

10:30 am **General Session:**

Wednesday, August 25, 2021

9:00 am **NEPPA Board of Directors Meeting**

11:00 am **Conference Adjourns.**

Agenda Item 5: Presentation of 2020 Financial Audit Findings as Presented to the Audit Committee

See Separate Document

Attachment 4 - Agenda Item 6: Integrated Resources Report



Intergraded Resources Report

BOC / CAB Discussion

3 June 2021



Outline

Power Portfolio Addition – third hydro

Renewable Choice - update

Background – key economic drivers

Third Hydro Power Supply Opportunity

Eastern New York, *Plant #4*, located on series of natural waterfalls, 150 ft total drop; hydro site for nearly 200 years

Enormous natural upstream watershed enables uniquely consistent power generation

No known environmental issues - regulated by NY DEC and the FERC under Federal Exemption granted in 1980s

Modern powerhouse installed in 1980s, with upgrades in 2000 and again in 2019

Volume ~31,000 MWh/yr (~4.8 % RMLD total load); with MA Class II associated certificates

Pricing slightly below average RMLD hydro prices (volume related discounts)

illustrative image



Renewable Choice at other MLPs

Five MLPs offer renewable choice program

Each **unique** to reflect MLP power portfolio and rate base characterization

<i>MLP Name</i>	<i>Annual Sales</i>	<i>Program Name</i>	<i>Additional Cost</i>	<i>Participation</i>
Belmont	121,521	Green Choice Program	\$3.00 - \$42.00 per month	Opt In
Wellesley	239,768	Voluntary Renewable Energy Program	\$0.044 / kWh (\$24 / month)	Opt In
Shrewsbury	243,529	Green Light Renewable Power	\$5, \$10, \$15, or custom	Opt In
Middleborough	262,843	+ Green Choice	\$0.02 / kWh	Opt In
Taunton	640,323	Go Green 100%	\$0.019 / kWh	Opt In

July 1st – Wellesley replacing their VREP with WECARE

4% increase (~\$4.60 / month)

majority of funds for future local energy projects and 15% of funds to buy RECs

opt out

Renewable Choice - update

Goal

Offer 100% options for rate payers (renewable or non-carbon)

Incremental to annualized non-carbon compliance that all ratepayers pay (example - 23% in 2021)

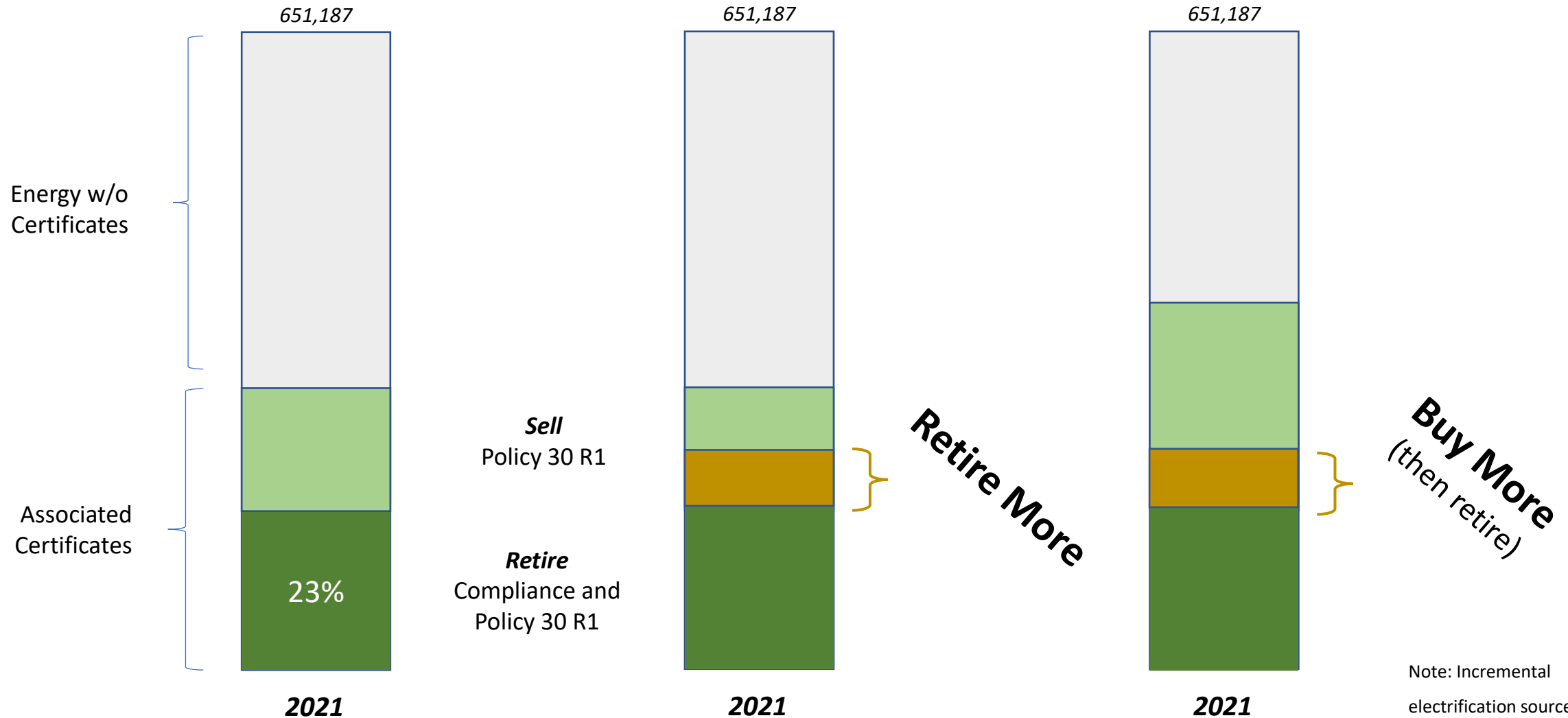
Renewable Choice

- Retire renewable certificates (MA Class 1s)
- Fixed rate (\$ / kWh)
- Or block amount (\$ / month)
- Minimum 1 year commitment

Non-Carbon Choice

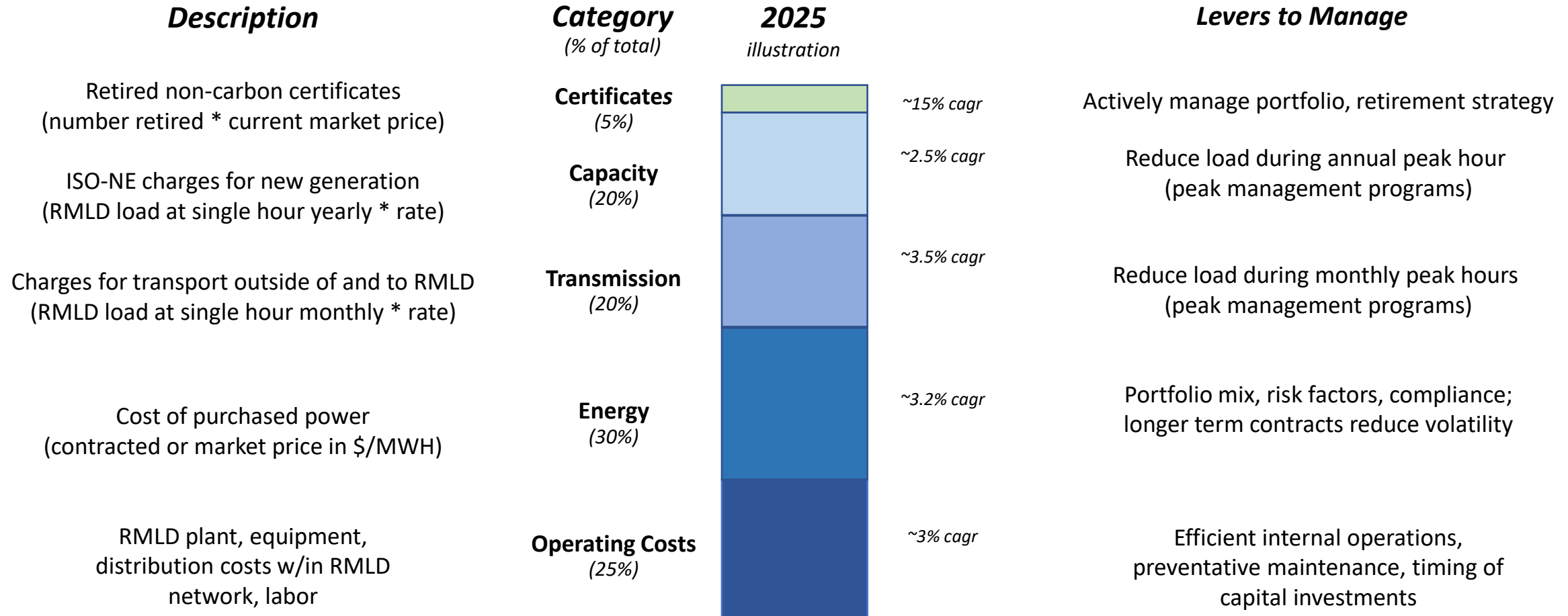
- Retire non-carbon certificates (EFECs → MA Class 1s)
- Fixed rate (\$ / kWh)
- Minimum 1 year commitment
- *TBD* mix of certificates retired
- *TBD* value of certificates retired
- *TBD* demand exceeds availability

Renewable Choice – mechanism illustration



Note: Incremental electrification sourced from non-carbon only

Key Financial (\$) Drivers at RMLD



Thank You

Attachment 5 - Agenda Item 7: Policy 9 - Procurement Request

RMLD New IT Production Environment with Disaster Recovery (DR) Backup Solution

Date: 6/3/2021

Presented by: Brian Hatch

Problem

A comprehensive assessment has been made to upgrade the RMLD Data Backup system including the essential components to align with the Disaster Recovery Plan with objectives shown below and accomplished in 4 phases as discussed on next slides.

- Identify a Disaster Recovery Location with connectivity
- Ability to perform essential backups for required systems
- Implement restoration locations of RMLD data under the new Disaster Recovery Plan
- Incorporate fault tolerant data protection scheme

Solution

Phase 1: Identify an off-Site location to Disaster Recovery (DR) with connectivity

- Identify an off-site DR Location with connectivity \$3,500 per month x12 months = \$42K

Phase 2 - Backup System with off-site replication

- Purchase two backup systems; data protection appliances 2 @ approximately \$80K each = \$160K

Phase 3 - New Production and repurposing our existing servers and storage

- Purchase new Production Servers and Storage 4@ approximate \$45K each = \$180K

Phase 4 - Incorporate fault tolerant data protection scheme

- 20 Servers @ \$0.00 Cost

External Services – To implement the above stated Data protection scheme 160hrs @ \$200 = \$32K

Summary

The above four phases with external services gives RMLD the ability to restore RMLD production data and SCADA server environments. As well as the ability to test Disaster Recovery twice a year which is considered by NIST and NERC an IT best practice.

New IT Production Systems with Backups and Disaster Recovery

2021 Recommended Budget Addition

Description	Cost	Quantity	Total Cost
Phase 1: Disaster Recovery Connectivity and Location	\$3,500	12	\$42,000
Phase 2: Backup System with Off-Site replication	\$80,000	2	\$160,000
Phase 3: New Production (Servers and Storage) and repurposing our existing equipment	\$45,000	4	\$180,000
Phase 4: A minute-by-minute backup with restoration	\$0	20	\$0
External Services for Capital and Operating Services	\$200	160	\$32,000
Total			\$414,000