

Concord Municipal Light Board Minutes
April 13, 2022

Pursuant to a notice duly filed with the Town Clerk, a meeting of the Municipal Light Board was held on Wednesday April 13, 2022, at 7:30 AM, via a Zoom Webinar. Present were Board Members: Wendy Rovelli (Chair), Brian Foulds, Gordon Brockway, Alice Kaufman, and Pamela Hill. Also in attendance were David Wood, CMLP Director; Jason Bulger, Concord CIO; Kerry Lafleur, Interim Town Manager; Carole Hilton, CMLP Customer Service Administrator; Laura Scott, CMLP Power Supply and Rates; Jan Aceti, Energy Conservation Coordinator; Matt Cummings, CMLP Financial Manager/Accountant; Amanda Kohn, Sustainability Director; Matt Johnson, Selectboard liaison to the Light Board; Karin Farrow, CMLP Sr. Admin; and residents: Karlen Reed, Pamela Dritt, Andy Puchrik, David Allen, David Hesel, Scott Hopkinson, Mark Howell, Jim Terry and Gail Hire.

Note definitions for acronyms used in these minutes:

- **PILOF:** Payment in lieu of Franchise
- **PILOT:** Payment in lieu of Taxes

CALL TO ORDER

Ms. Rovelli called the meeting to order at 7:30 AM. Meeting recording will be posted to the Minuteman Media Website as soon as it is available.¹

MEETINGS & MINUTES

Upcoming Meeting Dates: May 11, 2022, June 8, 2022, July 13, 2022, August 10, 2022, September 14, 2022, October 12, 2022, November 9, 2022, and December 14, 2022.
Ad Hoc meeting added for April 27, 2022

Ms. Hill moved for approval of the December 29, 2021, minutes, Ms. Kaufman second the motion and with a unanimous roll call vote, minutes were approved.

CHAIR'S UPDATE (Timestamp 4:35)

Proposed Town Meeting Article 38 calling for in-town solar. Ms. Rovelli suggested that the proposed is an aggressive deadline as Light Board and CMLP staff already have a full workload. Ms. Rovelli to craft a statement for Board review prior to Town Meeting.

DIRECTOR'S UPDATE presented by Mr. Wood² (Timestamp 12:05)

Clarifications to Board questions and comments:

- Issue of funding for Middle School solar project needs attention
- Air source heat pump rebate applications are anticipated to exceed the calendar year 2022 budget amount (\$123,000)
- Board review of the rebate programs for the 2023 budget will be included as an agenda item later in the year.

¹ https://www.youtube.com/watch?v=ixWmM9tm0_g

² Addendum A: CMLP Directors Report & Arrears Report

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- For the Middle School solar, the Board will need to make decisions as to the size of the array installation and the funding for it.

BROADBAND UPDATE presented by Mr. Bulger³ (Timestamp 29:00)

Clarifications to Board questions and comments

- The added cost of bringing in outside help with new installations is expected to be recouped in the first few months of service
- Telecom staff are working together with Customer Service and within NISC software on improving communication with customers via email notifications

RATES – Fixed vs Variable Costs (Timestamp 42:50)

The following responses were given to questions and comments on the presentation:⁴

There will be an opportunity in the future to discuss the methodology of the assignment of depreciation to each rate class.

The PILOT expense belongs in the Energy Expense category as it is calculated on kilowatts hours sold. The proposed rate structure represents a redistribution of costs and is revenue neutral. The ratios are based on Eversource equivalent behavior and with Concord smart meter deployment (preferably 1 year or more) a more relevant ratio assessment can be made. The recommendation is only looking at the R-1 rate and is not necessarily indicative of what a sample monthly bill would look like for all the other rate classes. The discussion is focusing on a proposed new rate structure that represents an accounting measure (cost reallocation) not a revenue generation measure. The Board members voiced agreement in concept for the new rate structure methodology noting some details warranted further consideration.

Mr. Allen inquired as to the logic that makes demand a variable rather than a fixed charge. The fee paid for the CP1 and CP12 are based on CMLP usage during those peaks.

Mr. Johnson suggested that psychological, or behavioral pricing for consumers is a key factor that should not be overlooked.

FIBER TASK FORCE REPORT⁵ (Timestamp 1:38:18)

Outline/report summary of Mr. Howells presentation (see footnote for link to Draft report)

Fiber Task Force Draft Report Summary - for the Light Board 4/13/22

Task Force:

Members: Gordon Brockway, David Hesel, Gail Hire, Scott Hopkinson, Mark Howell

Mission: Article 41 2021 TM & Charge: Investigate Fiber completion, propose solutions

Timeframe: Sept 2021 to May 2022

Deliverable: Report and recommendations for action.

³ Addendum B: Broadband Update

⁴ Addendum C; CMLP Fixed and Variable Electric Costs presentation

⁵ Draft Fiber Broadband Completion Report: <https://www.concordma.gov/DocumentCenter/View/35994/FBCTF-Report-Public-Draft-4-10-22>

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Status of the fiber network

Coverage - about 120 of 138 Road miles 86%
Premises - 6131 of 8023 Master Address Table entries 76.4%
MDU and Multi-family about 50% have fiber
MDU and Multi-family make up 81.4% of addresses without fiber

MDU and Multi-family

An investment model from the Telecommunications enterprise is needed to encourage property owners of rentals and groups such as homeowners' associations to install fiber. Without an updated approach potential MDU subscribers will remain underserved. Alternative approaches such as hybrid fiber/copper/wireless may be needed in some cases. These investments are likely to pay back and therefore are financially justifiable.

Streets without Fiber:

Analysis found fifty-two geographically identifiable areas that lack fiber
Many are subdivision roads "of a certain era"
Recommend investigating low-cost fiber construction techniques.
Recommend updating planning for Road Improvements to include fiber upgrades

Status of the Broadband Business:

Growth has slowed in 2020 and 2021, the pandemic may be the cause, but might not be too.

Take Rate is 25% for those that have fiber available (1525 as of Sept '21)
For Ref. Comcast subscribers

Total contract value of a new subscription is in the range of \$16,000. (Based on 20 years of service)

Investing a bit more in Marketing to ensure demand appears justified (Installation services and expense are less than \$2,000/customer)

Strategic Planning for the coming competition from cable, low-earth orbit satellite and 5G providers is needed.

Summary of Recommendations:

1. Adopt a universal access as a goal, where all premises are served enabling anyone that wants service to get it.

Recognize that there is value in completing the fiber network
Recognize the right thing to do from an equity perspective.
Look for alignment with other town-wide goals - sustainability, housing, etc.

2. Manage the business carefully to enable the goal to be achieved organically
Understand the business operations by managing to metrics/ Progress toward goals.
Understand the marketplace and competition through periodic studies
Grow the business more deliberately with marketing and adoption programs.
Monitor and respond to cancellations
Monitor installations, time to complete and abandoned orders

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3. Pursue grants and other sources of funding to assist and accelerate progress.

Start with ARPA Recovery - \$240K documented lost revenue

Remove the PILOF as an annual expense - 20K pre year and growing

Examine the 1.9M debt repayment to the Light Plant in more detail - significant headwind for 10 years.

Look for alignments that leverage digital equity, economic development, and other town goals

Issues for awareness:

Planning Opportunities:

Road Program Coordination

Dedicated allocation from Broadband Capital Plan.

Affordable Housing enablement

Drags on the ability to fund:

Slow subscriber growth.

PILOF to Minuteman Media Network

\$1.9 Million "Startup Loan" - Documentation of the expenses or is there available cash?

Board members expressed appreciation for all the work the Task Force had put into generating the report. The Board is going to have to think about it is the cost of implementation of the key priority areas identified in this and cost to the ratepayers.

Mr. Wood clarified that direct bury stopped early in the 1990s not 2002 and that the pandemic caused the slowdown of the installation rate in 2021 & 2022.

Mr. Howell added that there is a downward trend for installations per year. Understanding the uptake in this competitive environment and what the market share that Broadband is likely to achieve is important. As additional comment and feedback are received, the report is expected to be refined to be ready for the May Town Meeting.

Mr. Howell explained that on the Fiber Completion Taskforce page the town's website there is a button to submit an email message which comes directly to the task force through the town's website. This is a way that anybody who has something to say can write a message. We do appreciate having it in writing because it allows us to distribute it and make sure we do not lose it. But we will take comments from whatever form we can get.

LIAISON & PUBLIC COMMENTS

Ms. Dritt voiced a call to action to address the deadline of the climate crisis and decarbonization of the town, to electrify everything and green the grid. Progress needs to be made faster and cannot pause. There is a need to go beyond what is industry standard practice. Rates need to raise the funds for the needed capital expenditures not just cover costs she opined.

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Mr. Allen opined that a PILOF was not the way to fund the TV station. (Minuteman Media)

ADJOURN

Ms. Kaufman made a motion to adjourn Mr. Foulds provided the second and with a unanimous roll call vote the meeting was adjourned @ 9:34 AM.

Respectfully submitted, Gordon Brockway, Clerk

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Addendum A



Date: April 12, 2022
To: Light Board
From: David Wood, Light Plant Director *D. Wood*
Subject: Director's update 4/13/2022

Energy Management:

- CMLP is now offering \$10,000 whole home air source heat pump rebates and \$1,250/ton partial home rebates to Concord households that switch from oil, propane, electric resistance or ETS to heat pumps in 2022.
- Jon Menkis, a resident of Richmond, MA, in the Berkshires, was getting a haircut in Concord, and his barber told him about the Concord Clean Comfort Program! Jon contacted Amanda Kohn to ask about coaching services that might be available to him. It's great to hear that news of the Concord Clean Comfort program is being spread by word of mouth. CMLP staff provided Jon with leads for coaching services available outside of Concord.
- In our most recent report to the Light Board about the number of EVs in Town, we reported 581 for 2021. That was the most up-to-date figure available for 2021 at the time, which included all of the additions in 2021, but none of the subtractions. After factoring in subtractions, the number of EVs in Town at the beginning of 2022 is 545 total, an increase of 75 from early 2021. EVs now make up 3.7% of all registrations.

Operations:

- Concord Middle School Solar: We received the proposal from Solar Design Associates this week. The proposal outlines six phases of their work. The schematic design was phase 1 of their work and was previously funded and completed. This proposal is to provide the services as defined in Phase 2-6 above for a total fixed fee of \$96,800.
 - Phase 2 – Design Development
 - Phase 3 – 100% Construction Documents
 - Phase 4 – Bidding, Evaluation / Contractor Selection
 - Phase 5 – Construction Period Support
 - Phase 6 – System CommissioningPlease note that the cost of \$96,800 is an unbudgeted cost and it will directly impact the bottom line.
- Smart Meter Project: The project review team (Joe Repoff, Laura Scott, Carole Hilton, Jason Bulger, Bob Hill(Water/Sewer), Nelson Mui(Water/Sewer), Brian Foulds, Jackie Lemmerhirt (Consultant), and myself) have continued to work on preparations for the vendor presentations/interviews. The team has met with NISC to review our short vendor list and gather feedback from them on their working experience with the vendors. Interviews are

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scheduled for next week on April 19th, 20th and 21st. Each presentation/interview will take approximately 2 hours. At the conclusion the team will move onto the final phases of the selection process.

- Arrears Report:** Attached to this report is the 4/12/2022 Arrears Report. The report shows the total due amount is \$866,081.38 and the total past due is \$521,056.53. We are now out of the winter moratorium and have start the shut-off process for non-payment. The first round of shut-offs will commence on April 26th with the customers 90 days past due. Currently there is \$58,329.38 that is 90 days past due. The customer service team will continue to work with customers to set up payment plans as needed to avoid shut-off. Of note the total due amount is approximately \$100,000 lower than the November 2021 Arrears Report.

Concord Municipal Utilities Revision: 15602

04/12/2022 07:30:38AM		ARREARS REPORT						Page: 1
	Total Due	Total Past Due	Current	30 Day	60 Day	90 Day		
	Total Bill Amt	Total Bill Past						
Totals For PROVIDER: 1ELE	690,868.33	402,586.44	288,281.89	306,906.91	55,960.49	39,719.04		
	690,868.33	402,586.44						
Totals For PROVIDER: 2WTR	85,021.86	59,275.92	25,745.94	28,964.87	12,862.56	17,448.49		
	85,021.86	59,275.92						
Totals For PROVIDER: 3SWR	77,156.42	52,427.39	24,729.03	29,984.65	21,280.89	1,161.85		
	77,156.42	52,427.39						
Totals For PROVIDER: 4TCOM	13,034.77	6,766.78	6,267.99	5,948.34	818.44	0.00		
	13,034.77	6,766.78						
Grand Totals:	1,062	Accounts						
	Total Bill Amt	Total Bill Past	Total Due	Total Past Due	Current	30 Day	60 Day	90 Day
	866,081.38	\$ 521,056.53	\$ 866,081.38	\$ 521,056.53	\$ 345,024.85	\$ 371,804.77	\$ 90,922.38	\$ 58,329.38

Concord Municipal Utilities Revision: 15602

11/17/2021 06:36:20AM		ARREARS REPORT						Page: 1
	Total Due	Total Past Due	Current	30 Day	60 Day	90 Day		
	Total Bill Amt	Total Bill Past						
Totals For PROVIDER: 1ELE	751,911.14	454,555.06	297,356.08	347,252.30	65,952.08	41,350.68		
	751,911.14	454,555.06						
Totals For PROVIDER: 2WTR	135,578.89	98,664.17	36,914.72	58,717.70	19,950.93	19,995.54		
	135,578.89	98,664.17						
Totals For PROVIDER: 3SWR	69,089.92	41,469.77	27,620.15	30,701.15	10,023.12	745.50		
	69,089.92	41,469.77						
Totals For PROVIDER: 4TCOM	7,618.98	4,370.06	3,248.92	3,343.64	1,026.42	0.00		
	7,618.98	4,370.06						
Grand Totals:	898	Accounts						
	Total Bill Amt	Total Bill Past	Total Due	Total Past Due	Current	30 Day	60 Day	90 Day
	964,198.93	\$ 599,059.06	\$ 964,198.93	\$ 599,059.06	\$ 365,139.87	\$ 440,014.79	\$ 96,952.55	\$ 62,091.72

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Addendum B



TOWN OF CONCORD
MUNICIPAL UTILITIES
ELECTRIC | WATER | SEWER | TELECOMMUNICATIONS

April 2022 – Broadband Updates

Concord Broadband is pleased to share the following updates and information from the past month. Please do not hesitate to contact us at broadband@concordma.gov should you have any questions, concerns, or feedback.

Operations

Broadband operations are coming out of the winter months at full staffing levels and ready to tackle the customer installs pending due to the cold weather (which makes fiber too brittle to splice outside). We currently have 84 confirmed customers eager for a connection to Concord Broadband, and we have conducted further analysis that represents their geographic location, time waiting for install, and other parameters that can be used to more efficiently plan deployments.

We have lined up work from an outside firm to expedite installs at only a modest cost per installation. Our analysis confirms the data presented by the Broadband Fiber Completion Task Force: a modest investment per installation results in a much higher long-term return considering the length of the average customer and the frequency of their departures (also known as “churn”).

We have posted the Telecom Director position on the Town’s website and advertised it multiple locations. To date, we have 8 applicants, and we are taking additional steps to ensure we have a talented pool of candidates.

Network Services

Upgrades and Updates

Broadband is currently in the middle of a major equipment upgrade, which includes replacing the core switching and routing equipment located at our Network Operations Center (NOC). The design of the equipment has been finalized, and we are working with our vendors to get competitive quotes to purchase the switches and routers.

Already, we have purchased and installed a multipurpose management server as well as new devices that handle IP addressing. To ensure we have smooth operations in the unlikely event that our NOC loses power, we have expanded the power monitoring and alerting functionality, added battery backups to extend the runtime of the equipment to over 2 hours, and made arrangements for a generator to be delivered in under an hour.

We have signed a contract to increase one of our internet service providers’ speeds from 5Gb/s to 10Gb/s at no added cost. This will bring our total bandwidth to 21Gb/s.

Maintenance

Firmware on existing devices was out of date, so we performed those updates during a planned maintenance window from 1-6am on Sunday, April 3rd. While the upgrades went incredibly smoothly, our routers lost a speed upgrade license that had been purchased by the Town, resulting in a 2.5Gb/s cap on the network speed. Initial testing did not turn up this issue, but later in the day, when demand surged, the issue became apparent. The manufacturer’s support resolved the issue fairly quickly, but the application of the licenses required a reboot of the devices, which did interrupt service for 1-2 minutes.

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Our new topology increases the resilience of the network when we need to perform maintenance, but by design, it can limit the bandwidth of the primary equipment because the carriers provide only a single link to our equipment. We have worked with a carrier that provides 10Gb/s to provide a secondary link that can automatically failover, increasing the available bandwidth and resilience of the network.

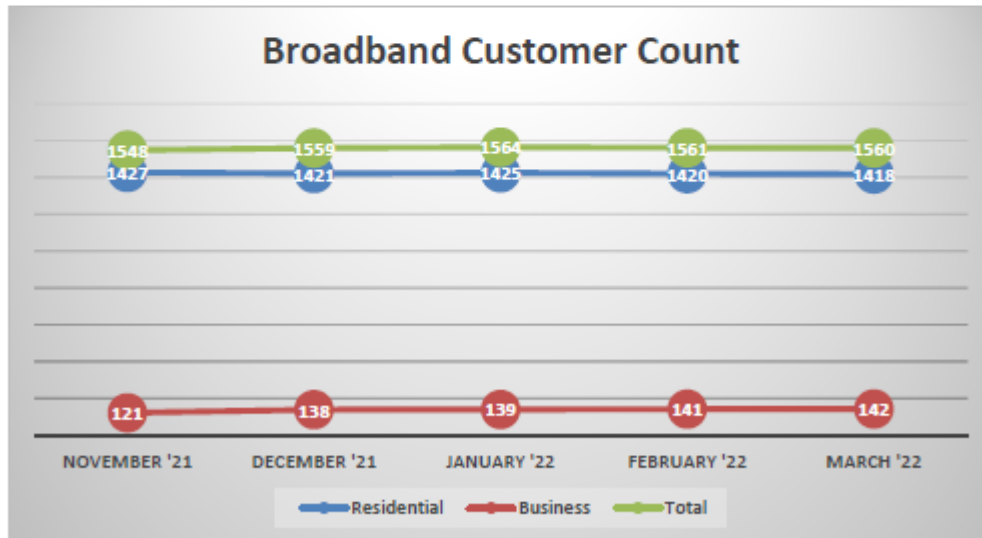
Special Projects

If you will recall, on December 24th, 2021, we experienced a widespread outage due to rodents chewing through fibers on Laws Brook Rd. Our Telecom Technicians did an amazing job repairing and splicing the fiber to get customers up and running, but several other major fiber cables were damaged and left unrepaired because they were not in use at the time.



With the help of the CMLP Underground Crew, we sealed every conduit entering a Local Convergence Cabinet (LCC) to prevent future rodent damage. Because repairing the remaining cables will require us to take down service for those customers still operating on the repaired fibers, we are working to retain the assistance of a vendor to replace this cable to ensure the smallest possible window of downtime.

Metrics and Business Data



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Marketing

Concord Broadband is working with the Customer Service team and other staff at CMLP to develop our marketing and branding. We are currently refreshing the Broadband web pages on the Town's website, creating handouts that can be used by Telecom Technicians while in the field, coordinating with real estate brokers, and developing welcome kits to new and prospective customers. We are also working on methods to stay in touch with potential customers who have expressed an interest in our service ahead of installation. This helps especially in the winter months when installations slow down so they have up-to-date information on how their deployment is coming along.

Future Projects and Things to Note

- Supply chain issues have caused severe delays on equipment we need to install new customers. We have been able to locate adequate stock of fiber, and we have orders in to ensure a constant stream of materials. The team is preparing an audit of all physical inventory to ensure we order now for what we might need in several months' time.
- We are working on finalizing the reissue of an RFP for Helpdesk services to begin on 7/1/2022.
- Updates to the Terms and Conditions have been in progress for a while. Our review and edits are nearing completion. Our plan is to post a draft of the updated Terms and Conditions, present a summary of the changes, allow public comment at a future Light Board meeting, and then adopt them.
- New system mapping software is rolling out to the Broadband team in April. This has been a long-term project with the goal of getting more accurate data into the hands of people installing and troubleshooting equipment. It will also aid the long-term maintenance of our inventory, ensuring it is more accurate.
- We have completed or nearly completed fiber expansion in the areas of Tanglewood Drive, Bartkus Farm Road, Monument Square, and Mill Run.

Addendum C:

CMLP Fixed and Variable Electric Costs

April 13, 2022 Light Board Meeting

CMLP's 2021 Electric Expenses

- In 2021 CMLP's unaudited electric expenses, including depreciation but excluding a return on ratebase, were \$30.6 million.
- How many of these expenses are fixed in nature, meaning they do not change with the amount of electricity delivered?
- How many of these expenses correlate directly with the amount of electricity delivered?
- How should CMLP collect for these expenses and how much should each customer class pay?

Expense Types

CP-1	\$4,900,363
CP-12	\$4,510,523
Customer	\$901,038
Cust-Sec	\$43,244
Cust-wgt	\$1,035,845
Direct.ETS	\$602
Direct.HWH	\$1,491
Direct.SL	\$19,486
Energy	\$13,160,629
Expense	\$4,303,356
NCP-Input	\$1,694,935
NCP-Sec	\$64,865
Grand Total	\$30,636,376

<u>Allocator</u>	<u>Description</u>
CP-1	Average of customer peak with system annual peak.
CP-12	Average of customer peaks with system peaks during each month of the year.
Customer	Total number of customers in each class.
Cust-Sec	Weighted average number of customers served at the secondary voltage level
Cust.Wgt	Number of customers in each class adjusted by a weighting factor to compensate for the additional time and expense to serve each customer class
Energy	Total energy used by each customer class.
Expense	Blended allocator based on all non-fuel expenses
NCP-Input	Peak of each customer class, adjusted for system losses.
NCP-Sec	Peak of each customer class, adjusted for losses occurring in the secondary distribution system.

CP-1 Expenses

CP-1	\$4,900,362.92
NBV - CP-1	\$96,224
Braintree Watson capacity & fixed costs	\$1,198,157
Hydro/Pasny capacity & fixed costs	(\$6,105)
NextEra capacity & fixed costs	\$237,240
Spot Market FCM (capacity)	\$3,374,847

CP-12 Expenses

CP-12	\$4,510,523
Non-ISO Transmission	\$44,858
ISO/NEPOOL Transmission	\$4,228,550
Eversource Category B	\$3,264
NBV - CP-12	\$88,569
PPWR Hydro/Pasny transmission	\$145,281

Customer Expenses

Customer	\$901,038
CARES expenses	\$675,907
Cool Concord Rebate CMLP	\$302
Customer Education	\$14,021
Customer Service and Informational	\$49,346
Electric Vehicle Level 2 Expense	\$10,750
Electric Vehicle Miles Expense	\$23,089
Energy New England-Other Power Supply Customer	\$67,995
Exp Deferred-Power Supply	\$952
Informational & Instructional	\$41,001
NBV - Customer	\$17,674

Cust-wgt Expenses

Cust-wgt	\$1,035,845
Accounting, Collection Expense	\$251,620
Dist - Meters	\$32,251
Distr Svs - Conversions	\$13,374
Distribution - Services	\$44,250
Distribution JO Anchors & Guys	\$3,490
Distribution Line Xformer	\$51,608
Distribution Station Equipment	\$9,928
Distribution UG Conduit	\$161,664
Maint of Customer LTD Mgt Switches	\$1,965
Maint of EV Charging Stations	\$2,239
Maint of Station Equipment - Eversource customer	\$24,464
Maint OH Lines - Tree Trimming Customer	\$56,167
Maintenance of Meters	\$511
Maintenance of Overhead Lines Customer	\$73,814
Maintenance of Station Equipment Customer	\$13,343
Maintenance of Transformers Customer	\$225
Maintenance of Underground Lines Customer	\$54,997
Meter Expense	\$9,604

Cust-wgt Expenses (Cont'd)

Cust-wgt	\$1,035,845
Meter Reading	\$15,707
NBV - Cust-wgt	\$11,939
Overhead Conductors & Devices	\$48,195
Overhead Line Expense Customer	\$3,954
Poles, Towers & Fixtures	\$19,633
SG - Maint OH lines Customer	\$7,279
SG - Maint St Lights	\$61
SG - Maint UG Lines	\$115
SG - Meter Expense	\$5,959
SG - Meter Reading	\$7,685
Small Balance Write Off	(\$9)
Station Expenses Customer	\$796
Supervision	\$44,866
Trans Station Expense customer	\$18,436
UG Conductors/FO	\$43,244
Uncollectable Accounts	\$2,266
Uncollectable Accounts - MR	\$204

Energy Expenses

Energy	\$13,160,629
Energy New England	\$67,995
Exp Deferred-Power Supply	\$952
Exp-NEHT oth Power Supply	\$36,080
NBV - Energy	\$213,984
PILOT	\$451,500
PPWR - Projects	\$7,153,480
PPWR Spot Market Ancillary	\$5,559
PPWR Spot Market Energy	\$1,867,337
Purchase of RECs	\$3,363,741

General Expenses

Expense	\$4,303,356
Administration & General Salaries	\$1,576,665
Contribution to the Town	(\$13,062)
Employee Benefits Training	\$62,646
Employee Injuries & Damages	\$31,794
Employee Pension & Benefits	\$1,085,552
Employee Sick Leave	\$124,249
Employee Vacation & Holiday	\$416,891
G & A IS Dept Transfer	\$145,883
G & A Town House Transfer	\$266,822
Interest on Bonds & Notes	\$95,160

General Expenses (Cont'd)

Expense	\$4,303,356
Inventory Adjustment	\$13,385
Maint General Plant	\$120,669
Misc General Expense	\$28,730
Misc Outside Services	\$193,496
Office Supplies & Expenses	\$64,582
Outside SVS Legal	\$20,949
Property Insurance	\$50,654
SG - Maintenance	\$7,500
SG - Outside SVS	\$6,987
Transportation Expense	\$3,805

NCP Expenses

NCP-Input	\$1,694,935
Distr Svs - Conversions	\$5,732
Distribution - Services	\$18,964
Distribution JO Anchors & Guys	\$5,236
Distribution Line Xformer	\$77,412
Distribution Station Equipment	\$14,891
Distribution Structures & Improvements	\$20,064
Distribution UG Conduit	\$242,496
Line and Station Supplies and Expenses	\$207,330
Maint of Station Equipment - Eversource demand	\$36,697
Maint OH Lines - Tree Trimming Demand	\$84,251
Maintenance of Overhead Lines Demand	\$110,722
Maintenance of Station Equipment Demand	\$20,015
Maintenance of Transformers Demand	\$3,533
Maintenance of Underground Lines Demand	\$82,495
Maintenance Supervision	\$132,202
Misc Intangible Plant	\$62,592
NBV - NCP-Input	\$14,793
Overhead Conductors & Devices	\$72,292

NCP Expenses (Cont'd)

NCP-Input	\$1,694,935
Overhead Line Expense Demand	\$5,931
Poles, Towers & Fixtures	\$29,449
Rent Expense - MBTA	\$12,545
SG - Maint OH lines Demand	\$10,918
SG - Maint St Lights	\$92
SG - Maint UG Lines	\$172
Station Expenses Demand	\$1,194
Subtrans - Station Equipment	\$10,272
Subtrans - Structures & Improvement	\$6,423
Subtrans - Underground Conductors	\$60,013
Subtrans - Underground Conduit	\$84,900
Trans Load Dispatching	\$3,078
Trans Station Equipment	\$85,583
Trans Station Expense demand	\$27,653
Trans Structures & Improvements	\$54,631
Trans Underground Conductors	\$14,632
Trans Underground Conduit	\$10,866
UG Conductors/FO	\$64,865



Recommendation

	Total Expense	R-1 Expense Ratios	R-1			
			Fixed	Variable	Demand	Total
CP-1	\$4,900,363	49%			\$2,424,210	\$2,424,210
CP-12	\$4,510,523	41%			\$1,861,944	\$1,861,944
customer	\$944,281	78%	\$740,978			\$740,978
cust-wgt	\$1,035,845	69%	\$719,498			\$719,498
energy	\$13,160,629	39%		\$5,094,479		\$5,094,479
NCP input	\$1,759,801	41%	\$722,926			\$722,926
Expense	\$4,303,356	65%	\$2,793,222			\$2,793,222
Direct	\$21,578	0%	\$0			\$0
Total	\$30,636,376		\$4,976,623	\$5,094,479	\$4,286,153	\$14,357,256
billing determinants			77,572	69,725,439	20,116	
units			\$/mo	\$/kWh	\$/kW	
unit charge			\$64.15	\$0.073	\$17.76	

Sample Monthly Bill

volume	1	835	2.1	Total
cost	\$64.15	\$61.01	\$37.68	\$162.84

Thank You!

- David Wood dwood@concordma.gov
- Laura Scott lscott@concordma.gov
- Matthew Cummings mcummings@concordma.gov