RMLD Strategic Study
A Financial Convergence of the Operating Income with the Town of Reading PILOT Due to the Loss of kWh Sales

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Substantial Changes at the RMLD since 2013

The RMLD has been actively transitioning from reactive to proactive in all facets of its operations, including Human Resources, Power Supply - wholesale and retail, System Operations, Purchasing, Risk Management, Safety, Asset Management, Finance, Utility Technology and Customer Service. Significant improvements have been made in all aspects of planning; system design and capital outlay, system maintenance, financial, power supply, risk management, talent management, and succession.

The RMLD's process of defining its strategy, or direction, and making decisions on allocating its resources to pursue its strategy, as well as defining the control mechanisms for guiding the implementation of the strategy, is called the DRAFT RMLD Master Strategic Plan (MSP). A utility shapes its operations based on its complexities; including system size, design, staff organization, number and types of customers, (residential to large industrial), and utility trends, historical data, and projected impacts. This provides the types and levels of planning required. Establishing immediate, short and long range plans, including emergency operations and catastrophic contingency plans, and financial plans, are key to maintaining the strategic course. The RMLD's success is measured by its Mission Statement which in short, commits to a safe and reliable system, competitive pricing through rates, and excellent customer service.

Master Strategic Plan example: catastrophic loss of substantial kWh.

A catastrophic (unplanned and sudden) kWh sales loss due to a customer(s) is a scenario for which the RMLD must be prepared. This type of loss can result in a significant amount of cost and can only be mitigated if risk strategies have already been vetted and implemented by each of the facets and that the overall strategy for impact is integrated into the MSP.

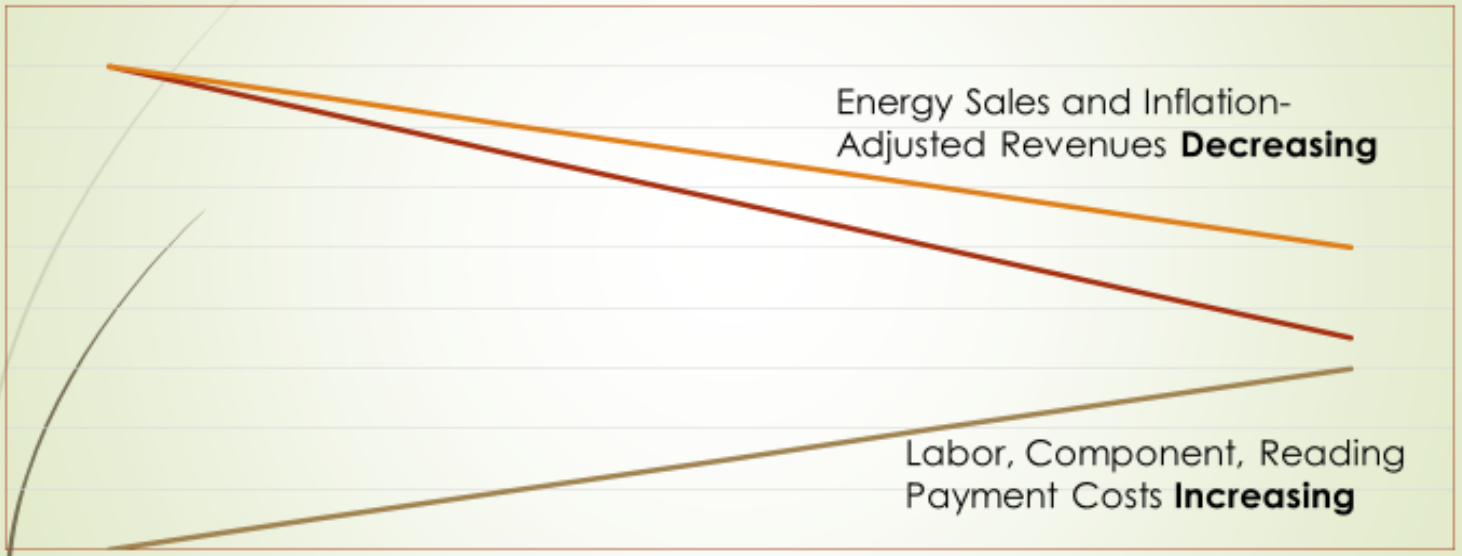
Each facet's strategic plan regarding the loss of major kWh sales may use different risk mitigation tools to determine the best case solutions. Integrated Resources may determine the level of kWh sales that represents the magnitude of a catastrophic loss and simulate programs such as load-following power purchases, or that optimal open market exposure is appropriate so that power supply commitments do not have to be paid for customers leaving the service territory. Another possible mitigation solution may be a Terms and Condition provision that holds the departing customer responsible for a portion of the power purchase on their behalf, based on their notification process to the RMLD for ramping down load. Facet strategic plans are evaluated on a continuous basis. Customer usage trends through exception reports help to spot fluctuations in customer demands. Engineering/Operations would have a strategy for the system impact if such loss occurs and a plan for redistribution of the feeders for proper balancing.

Finance, having already strategized for the magnitude of a loss, has developed financial planning methods. Other catastrophic events, such as the loss of a main substation, would be put through the same evaluation process within each of the facets to determine the MSP. In that type of event, mobile transformer and switchgear units would be brought in while a new substation is designed and built; temporary transformation could run $20,000 a week for a year. In either case, sudden significant costs require a solid financial plan. Without a specific contingency fund, the money for sudden unexpected catastrophic losses would come from the operating fund, the rate stabilization fund, the depreciation fund and potentially the fuel fund, although that fluctuates on a regular basis and may be less relied upon.

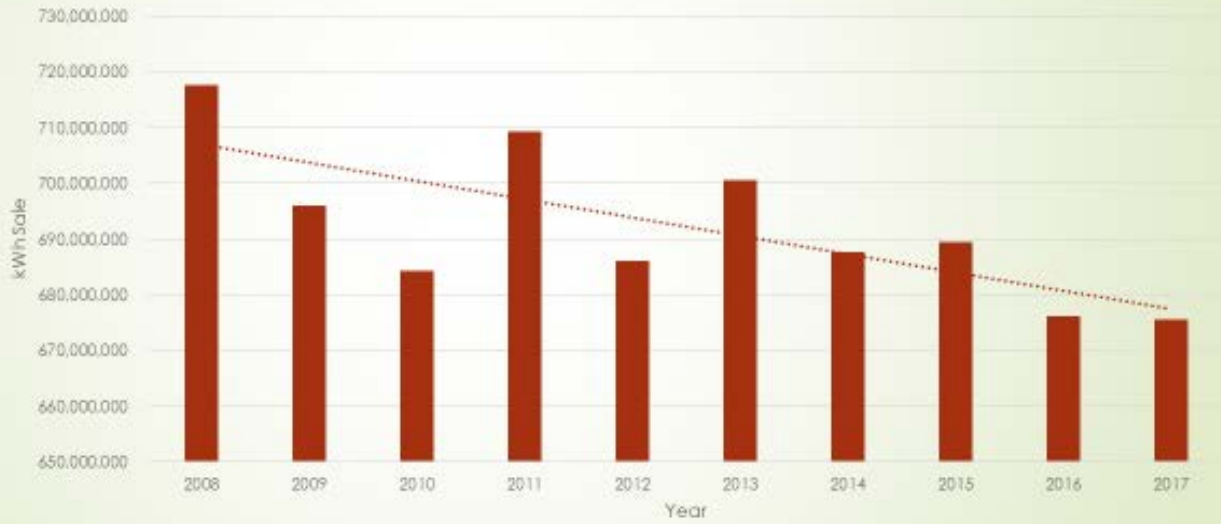
Preliminary MSP shows immediate concern of financial convergence.

While the senior managers were working to develop their strategic plans, the preliminary results were showing some immediate concern about how to address a financial convergence between the operating income, the capital outlay, and the Town of Reading payment. With significant long-term capital work required (Leidos Reliability Study results) and a significant portion of the operating income already being used for an escalating Town Payment (44% of the current operating income), how was the operating income going to be stretched with flat sales? Would rates be increased to subsidize the operating income regardless of flat sales, in order to have enough cash flow to cover the Town of Reading payment, capital projects, and potentially further fund OPEB and Pension unfunded liabilities? With flat sales, the RMLD would have some time to implement risk mitigation plans, investigate further economic development pockets, and other revenue streams. Unfortunately, as FY2018 began, sales came in lower than expected, beyond flat to a 1 percent drop, and now at a 1.8 percent drop by March of 2018. Electric vehicle charging station rebates, heat pump rebates, and other revenue sources were not showing enough impact compared to the kWh losses from the overall implementation of energy conservation measures by commercial customers.

RMLD Financial Trend – Revenue/Sales Decreasing, Costs Increasing



FY 2008-2017 kWh Sales



The RMLD is a not-for-profit quasi enterprise. Massachusetts General Law chapter 164, Section 58 outlines how a municipal electric utility determines its allowable earnings, which projects its operating income for the year. The DPU 85-121 allows the RMLD to make a Rate of Return of up to eight percent of net plant as operating income. Allowed is an interesting word. In exactly what situation would you want your electric utility to be allowed to make the maximum operating income? When is it appropriate to raise rates? What is the policy for establishing each year's Rate of Return (ROR)? The utility has first and foremost a legal obligation to cover its costs of production in providing safe, reliable, and low-cost power to its customers.

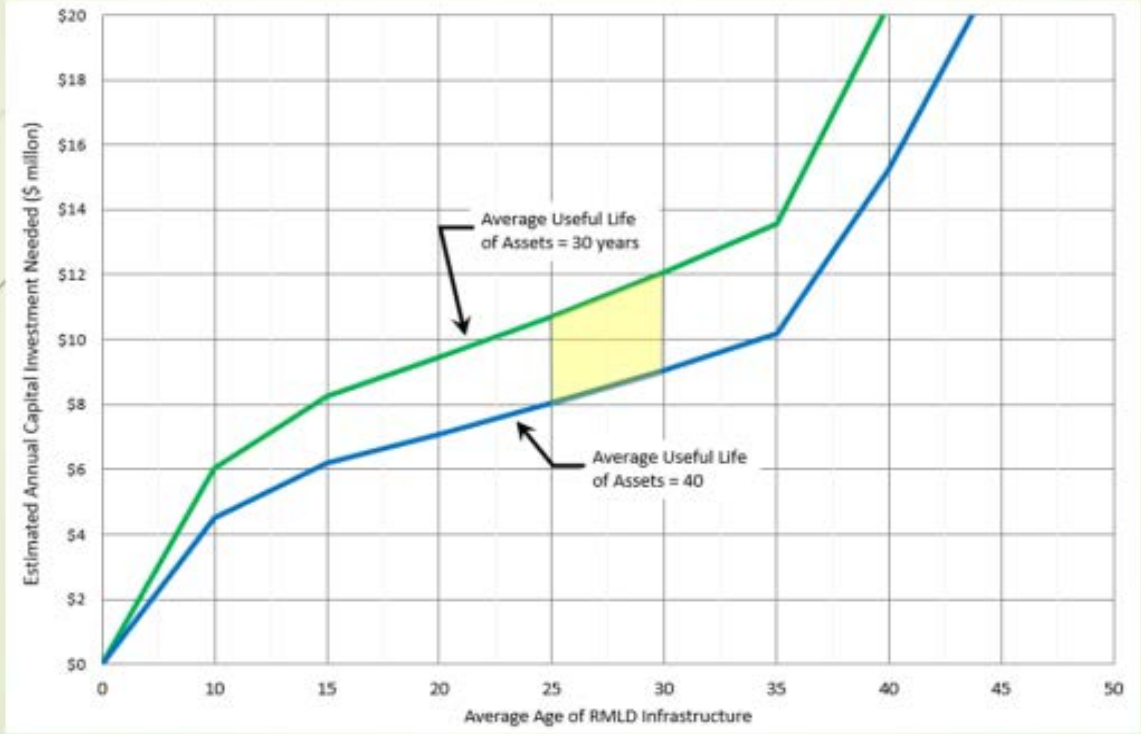
The desired ROR is determined from a balanced approach; less than 8 percent, supports commitments, keeps the RMLD competitively priced, is fair to the customers with respect to rates, produces capital support to ensure the system stays safe, reliable, and remains compliant with industry codes, laws, & regulations. In fact, regardless of the decline in kWh sales, the distribution system must operationally remain safe and reliable even if it eventually became purely back-up system such as in a number of California districts. Labor and equipment costs to keep electric systems reliable and safe have been steadily escalating throughout the industry.

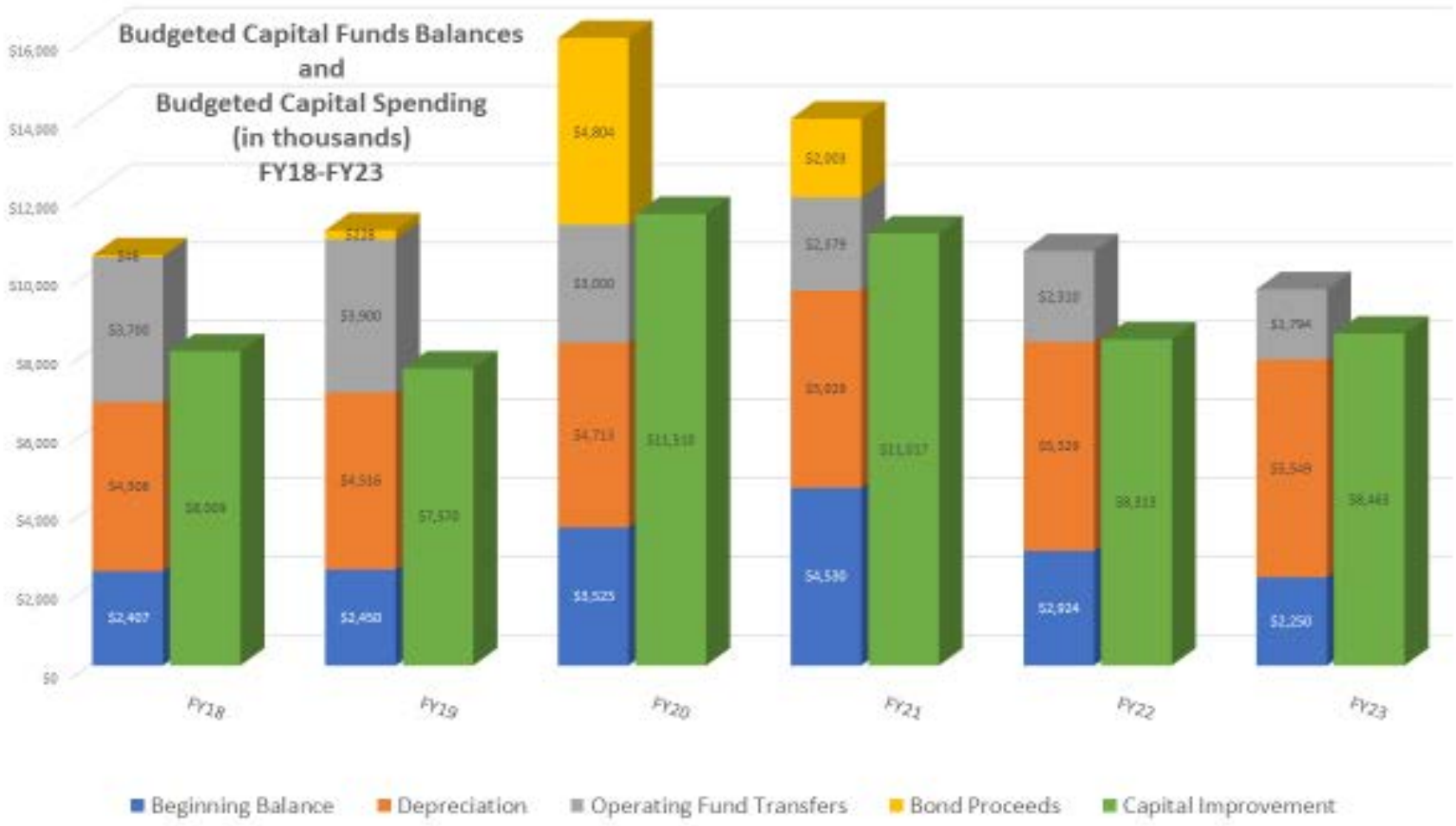
The strategy at the RMLD was to raise the ROR to approximately eight percent for five or less years to increase operating income for transfer to the construction/capital fund. This strategy was short-term and intended to mitigate other financial burdens such as bonding and associated interests. This was done to avoid creating a long-term debt that would be compounded by other industry projected costs such as transmission and distribution charges and State renewable standards (increased costs to meet state goals on renewable energy within the RMLD power portfolio). The long-term stacking of increasing costs would subject the rates to beyond competitive values. The strategy made assumptions that kWh sales would remain flat or commence to decrease slightly; the latter is now present and projected to continue to decrease a minimum of one percent per year. The period of leveling out has not been determined as new appliance technology (i.e. small variable speed drive motor appliances using fractions of energy) continues to advance in production. The Department of Transportation is hoping to see significant disruption by the electrification of vehicles by 2040, which could increase revenue. The decrease in kWh sales has been studied by the RMLD as well as outside consultants. It's possible that this area may see a leveling off in 10 years. The industry leaders confirm projections for the northeast region. The economic development pockets in each of the towns certainly help, including any major development in North Reading due to improved infrastructure. However, the input assumptions made without "meters spinning" remain unsupported conjectures.

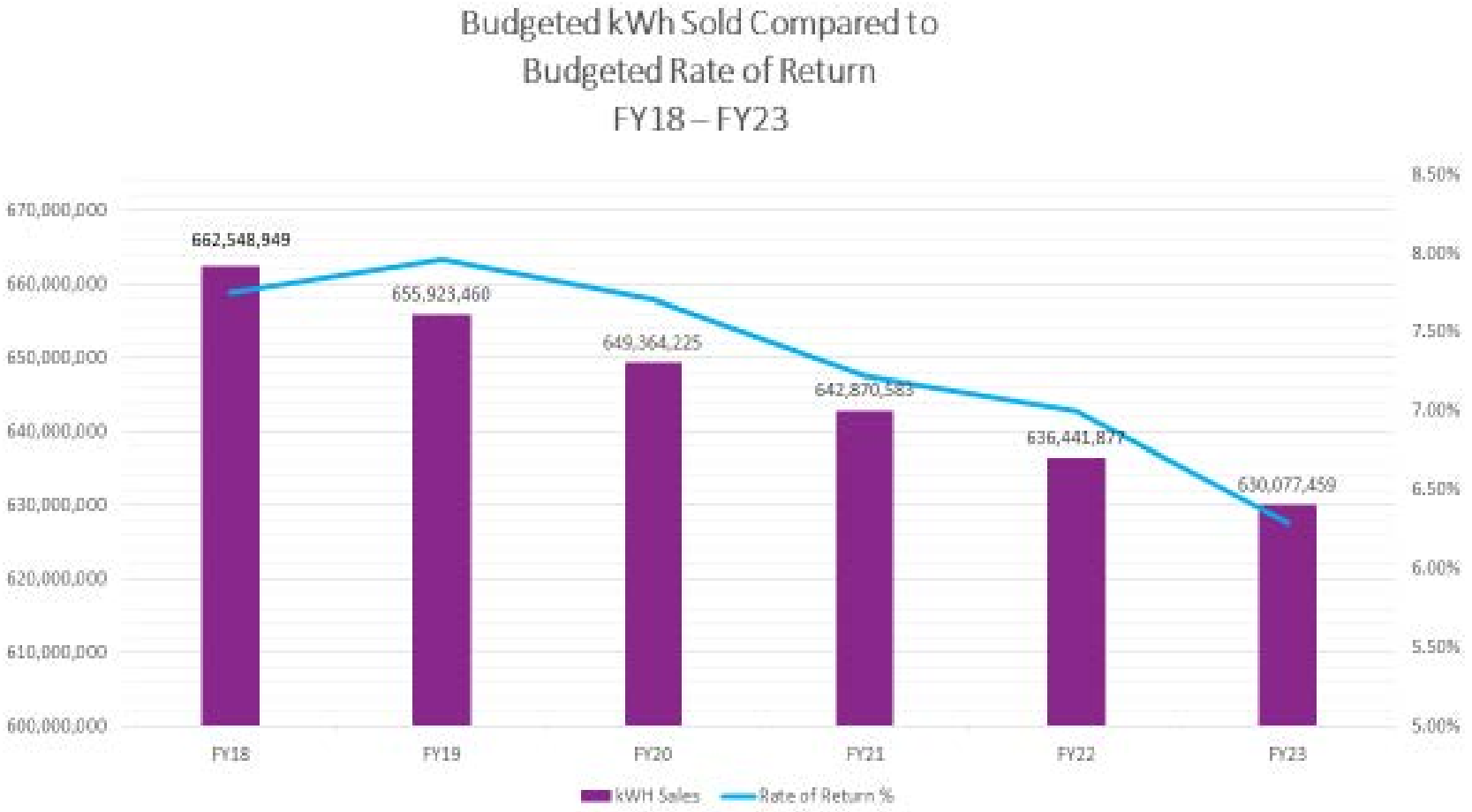
Since assumptions on sales have gone from flat to declining, the staff studied the projected ROR. It was determined that RMLD could not sustain a reasonable ROR out of the operating income, to support the capital transfer fund, along with the Town of Reading payments, and potentially the Pension and OPEB payments, without consistent annual rate increases.

Therefore, a preliminary short study was performed to determine if the budgeted amount for capital outlay was appropriate. The study looked at general asset data including the size and age of each continuing property unit type at the RMLD, e.g. transformers, circuits, poles, substations, etc. Based on the RMLD service territory and its infrastructure, $8 million per year should be invested into the system on an ongoing basis. The $8 million per year is obtained through a transfer of prior years' operating income to the construction fund, combined with the present year's depreciation expense which is based on three percent (3%) of the gross plant. The six-year plan fluctuates between $7 million and $11 million, but on average is approximately $8 million per year. It focuses on the re-building of prioritized aged underground and overhead infrastructure, GIS data collection, Outage Management and Customer Information system integrations, automation, cyber upgrades for NERC compliance, and construction of a new Wilmington substation to provide proper capacity and loading to that area of the RMLD service territory.

Estimated Annual Capital Investment Needs




Budgeted Capital Funds Balances
and
Budgeted Capital Spending
(in thousands)
FY18-FY23
$16,000
$14,000
$12,000
$10,000
$8,000
$6,000
$4,000
$2,000
$0
$3,700
$4,508
$2,407
$8,009
$3,900
$4,516
$2,450
$7,570
$4,804
$3,000
$4,713
$3,525
$11,318
$2,879
$5,028
$4,530
$11,017
$2,310
$5,529
$2,924
$8,313
$1,794
$5,549
$1,250
$8,443
FY18
FY19
FY20
FY21
FY22
FY23
Beginning Balance
Depreciation
Operating Fund Transfers
Bond Proceeds
Capital Improvement


Budgeted kWh Sold Compared to
Budgeted Rate of Return
FY18 – FY23
670,000,000
660,000,000
650,000,000
640,000,000
630,000,000
620,000,000
610,000,000
600,000,000
8.50%
8.00%
7.50%
7.00%
6.50%
6.00%
5.50%
5.00%
662,548,949
655,923,460
649,364,225
642,870,583
636,441,877
630,077,459
FY18
FY19
FY20
FY21
FY22
FY23
kWH Sales
Rate of Return %

Internal costs were evaluated. Each employee position was addressed under the reorganizational study and further analysis performed upon attrition, without compromising safety. Process procedures were developed to ensure efficiencies in each division. Rate structures were established to ensure that the cost of production was being properly classified and allocated. A detailed Cost of Service Study was performed to realign rates, bringing less cross subsidization, and to capture more time of use measures. While much progress has been made, the gleaming issue remains, there is a convergence coming and the operating income cannot be stretched beyond the utility's priorities.

The convergence path is clearly not a sustainable plan. Looking at the FY19 costs currently planned for the operating income use, assuming the rate increase is approved, the RMLD can make the CPI adjusted payment to the town, make the scheduled transfer to the construction fund, and keep the operating fund at no less than a $12 million level. The operating fund should be at least two-to-three months of operating cash available. The RMLD operating cash is dispersed at approximately $8-$10 million per month. The cash is currently almost two months of operating expenses but will come down with the planned transfers to the construction fund. The two months of operating expenses would be achieved with the operating fund, the rate stabilization reserve, and potentially the fuel reserve.

If the utility's strategic plan has resulted in a well-organized and laid out capital infrastructure plan, and those upgrades have been studied relative to their absolute necessity for implementation and cannot be extended further, and all operating efficiencies have been implemented, then the first priority for spending the operating income is to invest into the system. Next, if the voluntary PILOT to the Town of Reading is an agreed upon amount and its methodology for calculation is commensurate with the health of the utility, there is no present catastrophic event, and no rate increase is required to meet the cash demand of this payment, then it is justified as a community support priority. Third, if any other cost such as additional OPEB or Pension obligations are in order, then a rate increase would not be justified, and the payment must be sustained out of the ROR only if the excess ROR is not earmarked for the subsequent capital outlay transfer.

As it stands, a yearly rate increase would be needed to continue to meet the desired ROR for operations, which is currently set at 8%. If management agrees that 8% cannot be sustained for the sake of competitive rates and the burden on its customers, then a new ROR would be agreed to. Anything short of 8% would not provide the RMLD the proper cash flow to fund capital projects, fund OPEB and Pension unfunded liabilities, and continue to pay the Town of Reading at the escalated demand of the CPI index.

Pilot Payments.

Annual town PILOT payments have several designations including Return on Equity and Payment in lieu of taxes, among others. Regardless of the name of the payment, they represent a financial benefit to a town for ownership of the light plant, for covering the costs of administrative duties such as payroll, billing, etc., performed by the town (RMLD pays these admin costs in addition to PILOT payments), or an in lieu of tax payment for infrastructure residing within the town. These payments and the calculations used take on many forms. The DPU and the SJC state that MLPs are not tax collecting entities and have no obligation to make these payments.

Town	Payment	mils=1/10 cent
Rowley	$30,074	.7
Groton	$32,000	.5
Merrimac	$34,122	1.3
Sterling	$100,000	1.7
Hudson	$142,496	1.4
Shrewsbury	$237,569	.8
Holden	$270,000	.8
N. Attleboro	$300,000	1.4
Ipswich	$326,727	2.9
Concord	$465,000	2.8
Hingham	$500,000	2.5
Westfield	$500,000	1.3
Belmont	$650,000	5.2
Holyoke	$675,000	3.0
Middleboro	$702,593	2.7
Littleton	$760,000	2.6
Danvers	$800,616	2.8
Wakefield	$825,000	4.4
Braintree	$1,000,000	4.2
Reading - All Town payments	$3,764,394	5.5

The above represents a 2016 survey of towns with the mils per kWh based on the utility's annual kWh sales. Town payments range from approximately $30k to $2.37 million for Reading. In this table, however, the Unit Cost is supposed to reflect all town payments so that there is an apple to apple comparison. The 2016 total for all four RMLD town PILOT payments made as both an expense above the line at 2% of net plant paid to all four towns, plus the below the line (paid out of operating income) PILOT to the Town of Reading, was approximately $2.37 +$1.41 million = $3.78million at 5.5mils unit cost.

2% of Net Plant, above the line PILOT payments to all four towns 2013-2017

	Reading	North Reading	Lynnfield	Wilmington	Total 4 Towns
2013	$ 287,132.00	$ 253,834.00	$ 88,936.00	$ 767,132.00	$ 1,397,034.00
NET PLANT UTILITY	$ 69,851,692.00				
2% DISTRIBUTION	$ 1,397,034.00				
KWH SALES	142,052,218	125,578,270	43,998,847	379,520,541	691,149,876
KWH% OF TOTAL SALES	20.553%	18.169%	6.366%	54.911%	100.000%
2014	$ 287,368.00	$ 253,164.00	$ 91,112.00	$ 765,863.00	$ 1,397,507.00
NET PLANT UTILITY	$ 69,875,363.00				
2% DISTRIBUTION	$ 1,397,507.00				
KWH SALES	143,225,697	126,177,717	45,410,596	381,708,768	696,522,778
KWH% OF TOTAL SALES	20.563%	18.115%	6.520%	54.802%	100.000%
2015	$ 288,256.00	$ 254,610.18	$ 90,330.06	$ 760,752.55	$ 1,393,949.00
NET PLANT UTILITY	$ 69,697,353.00				
2% DISTRIBUTION	$ 1,393,947.00				
KWH SALES	141,114,831	124,643,049	44,220,762	372,423,010	682,401,652
KWH% OF TOTAL SALES	20.679%	18.265%	6.480%	54.575%	100.000%
2016	$ 291,901.00	$ 256,089.00	$ 91,389.00	$ 767,367.00	$ 1,406,746.00
NET PLANT UTILITY	$ 70,337,310.00				
2% DISTRIBUTION	$ 1,406,746.00				
KWH SALES	143,716,794	126,085,135	44,995,350	377,811,691	692,608,970
KWH% OF TOTAL SALES	20.750%	18.204%	6.497%	54.549%	100.000%
2017	$ 298,673.00	$ 266,071.00	$ 95,345.00	$ 799,451.00	$ 1,459,540.00
NET PLANT UTILITY	$ 72,977,009.00				
2% DISTRIBUTION	$ 1,459,540.00				
KWH SALES	138,206,363	123,120,767	44,119,595	369,935,097	675,381,822
KWH% OF TOTAL SALES	20.463%	18.230%	6.533%	54.774%	100.000%
TOTALS	$ 2,964,330.50	$ 2,702,292.18	$932,107.06	$ 7,996,635.55	$ 14,615,365.50

The calculation for the Town of Reading PILOT paid out of operating income is a CPI formula used over the last 22 years commencing with a $1.5 million base in 1997. The payment has escalated over the years to $2.48 million in FY2018 representing approximately 44 % of the RMLD operating income @ 7.2% ROR and a total of $41.1 million PILOT to date. The remaining 56 % is currently transferred from operating income combined with the depreciation expense to meet the capital outlay. Leaving a balance of 0 percent operating income for other commitments. Further, the 56% is not sufficient to fund the capital outlay, so further reductions to previous year's operating income are transferred into capital to ensure that the infrastructure upgrades are performed for reliability, regulatory compliance, and safety.

History of voluntary below the line PILOT Payments to the Town of Reading Since 1998 inflated at CPI, which fluctuates

Calendar Year	CPI	% Change	Year Paid	Payment
1997	167.900			
1998	171.100	2.26%	FY99	$ 1,560,414
1999	176.000	2.50%	FY00	$ 1,595,680
2000	183.600	4.32%	FY01	$ 1,635,572
2001	191.500	4.30%	FY02	$ 1,706,229
2002	196.500	2.61%	FY03	$ 1,779,597
2003	203.900	3.77%	FY04	$ 1,826,062
2004	209.500	2.75%	FY05	$ 1,894,829
2005	216.400	3.29%	FY06	$ 1,946,870
2006	223.100	3.10%	FY07	$ 2,010,991
2007	227.409	1.90%	FY08	$ 2,073,332
2008	235.370	3.50%	FY09	$ 2,112,725
2009	233.778	-0.68%	FY10	$ 2,186,670
2010	237.446	1.57%	FY11	$ 2,171,880
2011	243.881	2.70%	FY12	$ 2,205,957
2012	247.733	1.58%	FY13	$ 2,265,427
2013	251.139	1.38%	FY14	$ 2,301,221
2014	255.185	1.61%	FY15	$ 2,332,863
2015	256.716	0.60%	FY16	$ 2,370,445
2016	260.496	1.47%	FY17	$ 2,384,668
2017	267.003	2.51%	FY18	$ 2,419,770
			FY19	$ 2,480,506
	Average	**2.35%**		

If kWh sales are decreasing, there are less dollars to capture cost of production expenses and even less dollars to establish a high ROR regardless of whether the net plant value is going up. Simply, the ROR can be set at 8 percent, but unless the kWh sales support the ROR, then a rate increase is required. The ROR must be set to remain consistent with its Mission Statement, to remain fair to its customers, to have competitive rates, and the system to be reliable and safe.

RECOMMENDATION TO THE RMLD BOARD OF COMMISSIONERS:

The overall budget and recommendations come from the General Manager to the CAB and the Board of Commissioners. However, it is within the sole discretion based on all of the facts and data provided, that the Board of Commissioners are in understanding and approval of the establishment of each year's ROR, the projected operating income, and what the operating income will be spent on. Since the convergence is not commensurate with the RMLD Mission Statement, an immediate change is recommended regarding the Town of Reading PILOT payment.

PILOT calculation methodologies widely used across the nation tie to kWh sales, a true economic marker. With sales decreasing at the RMLD and the leveling period unknown, only a PILOT based on kWh sales would quickly reflect the health of the department, mitigate the convergence projections and preclude an increase in rates to make such a payment, is recommended. An alternative, although not preferred would be a percent of net plant. The existing Town of Reading PILOT (FY19) is approximately $2.48 million, calculated by an escalated by CY18 CPI of 2.51%.

This recommendation for the Town of Reading PILOT is based on mils per kWh sales. In CY20, the methodology for the calculation of the PILOT would be changed to 3.5mils or $0.0035 per kWh sold, and decrease at a rate of .1mil or $.0001 per year over a five year period to an end rate of 3 mils or $0.003 per kWh sold. The payment for CY20 would be calculated based on the actual kWh sold in CY19. This combination of below the line mil cost per unit plus the above the line 2% of net plant, as a total PILOT payout, is more in line with the surveyed results for overall town payments. Keeping in mind that while a reduction in kWh sales is projected, there is speculation that certain pockets of economic development are occurring in Reading and Wilmington, with potential development in North Reading, within a few years. In addition, the RMLD is strongly committed to increasing sales through incentive programs already in place including split HVAC units, and plug in car charging stations. Further phases of rate adjustments to mitigate subsidizations, etc. are already in place. The RMLD is also working diligently to network with similar utilities with a loss of kWh sales compounded by saturated service territories with minimal load growth expected.

The alternative would be a PILOT based on net plant. In CY20, the methodology for the calculation of the PILOT would be changed to 2.5% of net plant, and decrease at a rate of .1% over a five year period to an end percentage of 2% of net plant. The payment for CY20 would be calculated based on the reported net plant in CY19.

The Town payment would be reviewed each year when the ROR is established. The Department should continue to look at long-term finances and sales projections to ensure continued success in meeting its Mission Statement. The Subcommittee on the Town Payment should continue to meet at least every five years to address the viability of the calculation methodology. Continued long term loss of kWh sales, catastrophic events such as the loss of major kWh sales (sudden) or the catastrophic loss of a main substation or similar, would deem immediate evaluation of said calculation and could result in a suspended payment or revised payment calculation.

	Town of Reading Payment **CPI FY 18 & FY 19, 2.5 % CY19-24**	**Projected kWh Sales**	**Mils per kWh**	**Town of Reading Payment - mils/kWh sales**	**Net Plant**	**% of Net Plant**	**Town of Reading Payment - % of Net Plant**
FY18	$2,419,770	662,548,949			$78,814,000		
FY19	$2,480,506	655,923,460			$80,657,000		
CY19	$2,542,519	649,364,225	3.50	$2,295,732	$86,257,000	2.50%	$2,016,425
CY20	$2,606,082	642,870,583	3.40	$2,207,838	$90,930,000	2.40%	$2,070,168
CY21	$2,671,234	636,441,877	3.30	$2,121,473	$92,613,000	2.30%	$2,091,390
CY22	$2,738,015	630,077,459	3.20	$2,036,614	$94,308,000	2.20%	$2,037,486
CY23	$2,806,465	623,776,684	3.10	$1,953,240	$95,312,000	2.10%	$1,980,468
CY24	$2,876,627	617,538,918	3.00	$1,871,330	$96,120,000	2.00%	$1,906,240