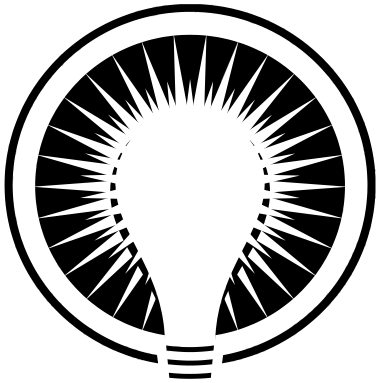

READING MUNICIPAL LIGHT DEPARTMENT

BOARD OF COMMISSIONERS

REGULAR SESSION

TUESDAY, MAY 8, 2018

RMLD'S FISCAL YEAR 2019
OPERATING BUDGET
ATTACHMENT 1

FY19 OPERATING BUDGET

READING MUNICIPAL LIGHT DEPARTMENT
SIX YEAR PLAN
MARCH 31, 2018

	BUDGET FY17	ACTUAL FY17	BUDGET FY18	8 ACT / 4 BUD FY18	BUDGET FY19	BUDGET FY20	BUDGET FY21	BUDGET FY22	BUDGET FY23
FORECASTED kWh SALES		675,536,970		662,548,949	655,923,460	649,364,225	642,870,583	636,441,877	630,077,459
OPERATING REVENUES:									
SALES OF ELEC - BASE	$ 25,500,000	$ 25,601,354	$ 26,337,621	$ 26,136,738	$ 27,786,190	$ 28,758,707	$ 29,621,468	$ 30,510,112	$ 30,815,213
SALES OF ELEC - FUEL	34,074,492	33,468,084	32,491,810	33,764,234	33,390,196	33,712,097	34,037,218	34,365,591	34,697,247
SALES OF ELEC - CAPACITY/TRANSMISSION	34,322,278	33,237,804	38,086,978	39,173,122	37,877,303	34,582,425	32,972,372	32,789,952	34,460,703
FORFEITED DISCOUNTS	688,500	954,167	800,000	784,102	833,586	862,761	888,644	915,303	924,456
ENERGY CONSERVATION	673,000	663,806	675,000	662,549	655,924	649,364	642,871	636,442	630,078
NYPA	(900,000)	(1,208,457)	(1,200,000)	(1,200,000)	(1,200,000)	(1,200,000)	(1,200,000)	(1,200,000)	(1,200,000)
TOTAL OPERATING REVENUES	94,358,270	92,616,757	97,193,409	99,320,745	99,343,198	97,365,354	96,962,573	98,017,400	100,327,697
OPERATING EXPENSES:									
PURCHASED POWER - FUEL	33,174,492	31,534,934	31,291,810	32,564,234	32,190,196	32,512,097	32,837,218	33,165,591	33,497,247
PURCHASED POWER - CAPACITY	20,943,651	20,101,145	24,476,161	25,138,916	22,884,320	18,589,910	16,355,149	15,672,963	16,379,786
PURCHASED POWER - TRANSMISSION	13,378,627	13,067,359	13,612,817	14,034,206	14,992,983	15,992,515	16,617,223	17,116,989	18,080,917
OPERATING & MAINTENANCE EXPENSE	5,369,935	5,350,517	5,569,029	5,586,934	5,599,394	5,767,376	5,940,397	6,118,609	6,302,167
GENERAL & ADMINISTRATIVE EXPENSE	10,455,280	11,539,403	10,734,032	10,956,721	11,990,777	12,350,500	12,721,015	13,102,646	13,495,725
DEPRECIATION EXPENSE	4,134,000	4,101,308	4,362,000	4,305,989	4,516,000	4,713,000	5,029,000	5,329,000	5,549,000
TOWN PAYMENTS	1,445,420	1,433,143	1,500,000	1,496,714	1,569,789	1,601,240	1,678,270	1,786,480	1,846,300
TOTAL OPERATING EXPENSES	88,901,405	87,127,811	91,545,849	94,085,714	93,743,459	91,526,638	91,178,272	92,292,278	95,151,142
TOTAL OPERATING INCOME	5,456,865	5,488,946	5,647,560	5,235,031	5,599,739	5,838,716	5,784,300	5,725,123	5,176,555
NONOPERATING REVENUES (EXPENSES):									
INTEREST INCOME	125,000	271,658	150,000	250,000	250,000	250,000	250,000	250,000	250,000
OTHER INCOME	890,000	1,176,086	890,000	900,000	850,000	850,000	850,000	850,000	850,000
VOLUNTARY PILOT PAYMENT TO READING	(2,384,668)	(2,384,668)	(2,420,438)	(2,419,770)	(2,480,506)	(2,542,519)	(2,606,082)	(2,671,234)	(2,738,014)
LOSS ON DISPOSAL OF ASSETS	(150,000)	(74,698)	(150,000)	(150,000)	(150,000)	(150,000)	(150,000)	(150,000)	(150,000)
CUSTOMER DEPOSIT INTEREST EXP	(2,100)	(4,674)	(2,500)	(14,000)	(16,000)	(16,000)	(16,000)	(16,000)	(16,000)
TOTAL NONOPERATING REVENUES (EXPENSES)	(1,521,768)	(1,016,296)	(1,532,938)	(1,433,770)	(1,546,506)	(1,610,519)	(1,674,082)	(1,739,234)	(1,806,014)
NET INCOME	$ 3,935,097	$ 4,472,650	$ 4,114,622	$ 3,801,261	$ 4,053,233	$ 4,228,198	$ 4,110,219	$ 3,985,889	$ 3,370,540
RATE OF RETURN	7.81%	7.27%	7.75%	7.77%	7.96%	7.70%	7.22%	7.00%	6.29%

The RMLD is allowed up to 8% rate of return, however strategic planning targets a balance of keeping rates low, funding the capital infrastructure plan and supporting nonoperating expenses.

Town of Reading, Massachusetts
Municipal Light Department
Statement of Budgeted Revenues and Expenses

	Budget FY17	Actual FY17	Budget FY18	8 Actual/4 Budget FY18	Budget FY19
Operating Revenues					
Base Revenue	$ 25,500,000	$ 25,601,354	$ 26,337,621	$ 26,136,738	$ 27,786,190
Fuel Revenue	34,074,492	33,468,084	32,491,810	33,764,234	33,390,196
Purchased Power Capacity/Transmission	34,322,278	33,237,804	38,088,978	39,173,122	37,877,303
Forfeited Discounts	688,500	854,167	800,000	784,102	833,586
Energy Conservation Revenue	673,000	663,806	675,000	662,549	655,924
NYPA	(900,000)	(1,208,457)	(1,200,000)	(1,200,000)	(1,200,000)
Total Operating Revenues	94,358,270	92,616757	97 ,193,409	99,320,745	99,343,198
Expenses					
Power Expenses:					
547 Purchased Power - Fuel	33,174,492	31,534,934	31,291,810	32,564,234	32,190,196
555 Purchased Power - Capacity	20,943,651	20,101,145	24,476,161	25,138,916	22,884,320
565 Purchased Power - Transmission	13,378,827	13,067,359	13,612,817	14,034,206	14,992,983
Total Purchased Power	67,496, 770	64,703,438	69,380,788	71,737,356	70,067 ,499
Operating and Maintanance Expenses:					
580 Supervision and Engineering	702,323	579,420	900,777	813,602	1,075,757
581 Station/Control Room Operators	560,783	529,731	568,578	500,467	502,112
582 Station Tech	396,178	437,537	392,932	460,694	504,300
583 Line General Labor	-	-	-	-	24,818
585 Street Lighting	77,442	74,533	111,446	109,748	43,968
586 Meter General	222,099	245,920	209,412	241,760	212,933
588 Materials Management	376,418	345,075	379,312	436,513	440,005
590 Maintenance of Structures and Equipment	7,500	125,016	18,500	25,557	-
593 Maintenance of Lines - Overhead	1,047,824	1,200,739	1,059,276	1,302,072	783,322
593 Maintanance of Lines - Tree Trimming	786,958	862,024	886,340	754,942	898,865
594 Maintenance of Lines - Underground	119,406	239,040	197,002	119,916	484,399
595 Maintenance of Line Transformers	300,000	34,801	300,000	183,064	300,000
596 Maintenance of Street Light and Signal Syster	7,791	67,242	45,447	15,149	92,072
598 Line General Leave Time Labor	765,213	609,438	500,007	625,450	236,844
Total Operating and Maintenance Expenses	5,369,935	5,350,517	5,569,029	5,588,934	5,599,394
General & Administrative Expenses:					
902 Metar Reading	25,153	22,519	37,464	41,018	31,741
903 Customer Collection	942,224	1,183,052	921,024	901,960	1,114,877
904 Uncollectible Accounts	150,000	85,707	150,000	150,000	105,000
916 Integrated Resources	591,898	520,353	509,232	485,873	495,754
916 Energy Conservation	871,575	776,261	952,565	712,978	975,712
920 Administrative and General Salaries	1,958,308	1,630,643	1,983,217	1,909,971	1,968,492
921 Office Supplies	25,000	18,757	25,000	15,692	20,000
923 Outside Services-Legal and Contract	406,800	851,876	471,900	662,322	811,908
923 Outside Services-Education	234,575	127,282	289,691	166,621	243,893
924 Property Insurance	424,500	335,591	427,200	367,626	426,200
925 Injuries and Damages	57,215	73,255	52,613	62,104	47,449
926 Employee Pensions and Benefits	2,922,673	4,334,971	3,000,437	3,760,646	3,772,990
930 Miscellaneous General Expense	417,964	304,330	456,094	411,682	485,659
931 Rent	212,000	181,116	212,000	212,000	212,000
933 Vehicle	549,598	253,122	391,116	322,478	311,200
933 Transportation Capital Clearing	(300,000)	(245,780)	(301,596)	(324,267)	(284,440)
935 Maintenance of General Plant	180,000	336,003	281,880	329,024	335,148
935 Maintenance of Building & Garage	785797	7 48,327	874195	768,993	897 195
Total General & Administrative Expenses	10,455,280	11,539,403	10,734,032	10,956,721	11990,777
Other Operating Expenses:					
403 Depreciation	4,134,000	4 101 308	4,362,000	4,305,989	4,516,000
408 Voluntary Payments to Towns	1,445,420	1,433143	1,500,000	1,496714	1,569,789
Total Other Expenses	5,579,420	5,534,451	5,862,000	5,802,703	6,085,789
Operating Income	5,456,665	5,488,946	5,647,560	5,235,031	5,599,739
Non Operating Revenues (Expenses):					
419 Interest Income	125,000	271,658	150,000	250,000	250,000
419 Other Income	890,000	1,176,086	890,000	900,000	850,000
426 Voluntary PILOT Payment to Reading	(2,364,668)	(2,364,668)	(2,420,438)	(2,419,770)	(2,480,506)
426 Loss on Disposal	(150,000)	(74,698)	(150,000)	(150,000)	(150,000)
431 Interest Expense	(2,100)	(4,674)	(2,500)	(14,000)	16 ,000)
Total Non Operating Revenues (Expenses)	(1,521,768)	(1,016,296)	(1,532,938)	(1,433,770)	(1,546,506)
Net Income	$ 3,935,097	$ 4,472,650	$ 4,114,622	$ 3,801,261	$ 4,053,233

Town of Reading, Massachusetts
Municipal Light Department
Statement of Budgeted Revenues and Expenses

	Budget FY19	Budget FY18	Change in Budget %
Operating Revenues			
Base Revenue	$ 27,786,190	$ 26,337,621	5.5%
Fuel Revenue	33,390,196	32,491,810	2.8%
Purchased Power Capacity/Transmission	37,877,303	38,086,978	(0.6%)
Forfeited Discounts	833,586	800,000	4.2%
Energy Conservation Revenue	655,924	675,000	(2.8%)
NYPA	(1,200,000)	(1,200,000)	0.0%
Total Operating Revenues	99,343,198	97,193,409	2.2%
Expenses			
Power Expenses:			
547 Purchased Power - Fuel	32,190,196	31,291,810	2.9%
555 Purchased Power - Capacity	22,884,320	24,476,161	(6.5%)
565 Purchased Power - Transmission	14,992,983	13,612,817	10.1%
Total Purchased Power	70,067,499	69,380,788	1.0%
Operating and Maintenance Expenses:			
580 Supervision and Engineering	1,075,757	900,777	19.4%
581 Station/Control Room Operators	502,112	568,578	(11.7%)
582 Station Tech	504,300	392,932	28.3%
583 Line General Labor	24,818	-	100.0%
585 Street Lighting	43,968	111,446	(60.5%)
586 Meter General	212,933	209,412	1.7%
588 Materials Management	440,005	379,312	16.0%
590 Maintenance of Structures and Equipment	-	18,500	(100.0%)
593 Maintenance of Lines - Overhead	783,322	1,059,276	(26.1%)
593 Maintenance of Lines - Tree Trimming	898,665	886,340	1.4%
594 Maintenance of Lines - Underground	484,399	197,002	145.9%
595 Maintenance of Line Transformers	300,000	300,000	0.0%
596 Maintenance of Street Light and Signal Syster	92,072	45,447	102.6%
598 Line General Leave Time Labor	236,844	500,007	(52.6%)
Total Operating and Maintenance Expenses	5,599,394	5,569,029	0.5%
General & Administrative Expenses:			
902 Meter Reading	31,741	37,464	(15.3%)
903 Customer Collection	1,114,877	921,024	21.0%
904 Uncollectible Accounts	105,000	150,000	(30.0%)
916 Integrated Resources	495,754	509,232	(2.6%)
916 Energy Conservation	975,712	952,565	2.4%
920 Administrative and General Salaries	1,988,492	1,983,217	0.3%
921 Office Supplies	20,000	25,000	(20.0%)
923 Outside Services-Legal and Contract	811,908	471,900	72.1%
923 Outside Services-Education	243,893	289,691	(15.8%)
924 Property Insurance	426,200	427,200	(0.2%)
925 Injuries and Damages	47,449	52,613	(9.8%)
926 Employee Pensions and Benefits	3,772,990	3,000,437	25.7%
930 Miscellaneous General Expense	485,659	456,094	6.5%
931 Rent	212,000	212,000	0.0%
933 Vehicle	311,200	391,116	(20.4%)
933 Transportation Capital Clearing	(284,440)	(301,596)	(5.7%)
935 Maintenance of General Plant	335,148	281,880	18.9%
935 Maintenance of Building & Garage	897,195	874,195	2.6%
Total General & Administrative Expenses	11,990,777	10,734,032	11.7%
Other Operating Expenses:			
403 Depreciation	4,516,000	4,362,000	3.5%
408 Voluntary Payments to Towns	1,569,789	1,500,000	4.7%
Total Other Expenses	6,085,789	5,862,000	3.8%
Operating Income	5,599,739	5,647,560	(0.8%)
Non Operating Revenues (Expenses):			
419 Interest Income	250,000	150,000	66.7%
419 Other Income	850,000	890,000	(4.5%)
426 Voluntary PILOT Payment to Reading	(2,480,506)	(2,420,438)	2.5%
426 Loss on Disposal	(150,000)	(150,000)	0.0%
431 Interest Expense	(16,000)	(2,500)	540.0%
Total Non Operating Revenues (Expenses)	(1,546,506)	(1,532,938)	0.9%
Net Income	$ 4,053,233	$ 4,114,622	(1.5%)

READING MUNICIPAL LIGHT DEPARTMENT
FISCAL YEAR 2019 OPERATING BUDGET
ACTUAL AND PROJECTED FIXED AND SEMI-VARIABLE COSTS

FIXED COSTS:	FY17 BUDGET	FY17 ACTUAL	FY18 BUDGET	FY18 - B ACT/4 BUD	FY19 BUDGET	% OF FY19 BUDGET
Purchased Power - Fuel	$ 33,174,492	$ 31,534,934	$ 31,291,810	$ 32,564,234	$ 32,190,196	33.40%
Purchased Power - Capacity	20,943,651	20,101,145	24,476,161	25,138,916	22,884,320	23.74%
Purchased Power - Transmission	13,378,627	13,067,359	13,612,817	14,034,206	14,992,983	15.55%
Depreciation Expense	4,134,000	4,101,308	4,362,000	4,305,989	4,516,000	4.69%
Voluntary PILOT Payment to Reading	2,384,668	2,384,668	2,420,438	2,419,770	2,480,506	2.57%
Town Payments	1,445,420	1,433,143	1,500,000	1,496,714	1,569,789	1.63%
Misc Deduction - Losses on Disposal	150,000	74,698	150,000	150,000	150,000	0.16%
SUB-TOTAL	75,610,858	72,697,256	77,813,226	80,109,829	78,783,794	81.73%
SEMI VARIABLE COSTS:						
Labor	6,559,885	5,883,643	6,394,381	6,216,899	6,423,097	6.66%
Employee Benefits/Pension	2,922,673	4,334,971	3,000,437	3,760,646	3,772,990	3.91%
Conservation Expenses	871,575	778,281	952,565	712,978	975,712	1.01%
Overtime	561,520	727,092	763,517	979,889	971,731	1.01%
Tree Trimming	786,958	862,024	886,340	754,942	898,865	0.93%
Legal & Professional Services	406,800	851,876	471,900	662,322	811,908	0.84%
Other General and Admin Expenses	481,530	426,133	543,762	511,748	591,646	0.61%
Customer Processing Fees	509,000	747,354	484,599	462,341	532,600	0.55%
Maint of Building and Garage	406,000	364,844	476,400	362,501	497,550	0.52%
Property Insurance	424,500	335,591	427,200	367,626	426,200	0.44%
Other Operating and Maint Expenses	465,986	714,611	473,756	631,686	383,622	0.40%
Maint of General Plant	180,000	336,003	281,880	329,024	335,148	0.35%
Vehicle Expense	549,598	253,122	391,116	322,478	311,200	0.32%
Vehicle Capital Clearing	(300,000)	(245,780)	(301,596)	(324,267)	(284,440)	-0.30%
Transformer (hazardous material)	300,000	34,801	300,000	183,064	300,000	0.31%
Training/Tuition	234,575	127,282	289,691	166,621	243,893	0.25%
Rent Expense	212,000	181,116	212,000	212,000	212,000	0.22%
Bad Debt Expense	150,000	85,707	150,000	150,000	105,000	0.11%
Injuries & Damages	57,215	73,255	52,613	62,104	47,449	0.05%
RMLB/CAB	22,500	3,913	30,000	19,360	30,000	0.03%
Office Supplies	25,000	18,758	25,000	15,692	20,000	0.02%
SUB-TOTAL	15,827,315	16,894,596	16,305,561	16,559,655	17,606,171	18.27%
TOTAL EXPENSES	$ 91,438,173	$ 89,591,851	$ 94,118,787	$ 96,669,484	$ 96,389,965	100.00%

READING MUNICIPAL LIGHT DEPARTMENT
FISCAL YEAR 2019 OPERATING BUDGET
SUPPLEMENTAL INFORMATION

SEMI VARIABLE COSTS:	FY19 OPERATING BUDGET	FY19 CAPITAL BUDGET	TOTAL COSTS
Labor	$ 6,423,097	$ 1,358,066	$ 7,781,163
Employee Benefits/Pension	3,772,990	810,390	4,583,380
Conservation Expenses	975,712		975,712
Overtime	971,731	99,469	1,071,200
Tree Trimming	898,865		898,865
Legal & Professional Services	811,908		811,908
Other General and Admin Expenses	591,646		591,646
Customer Processing Fees	532,600		532,600
Maint of Building and Garage	497,550		497,550
Property Insurance	426,200		426,200
Other Operating and Maint Expenses	383,622	271,878	655,500
Maint of General Plant	335,148		335,148
Vehicle Expense	311,200		311,200
Vehicle Capital Clearing	(284,440)	284,440	-
Transformer (hazardous material)	300,000		300,000
Training/Tuition	243,893		243,893
Rent Expense	212,000		212,000
Bad Debt Expense	105,000		105,000
Injuries & Damages	47,449	29,150	76,599
RMLB/CAB	30,000		30,000
Office Supplies	20,000		20,000
SUB-TOTAL	$ 17,606,171	$ 2,853,393	$ 20,459,564

FY2019 BUDGET SUMMARY

PURCHASE POWER EXPENSE

PROJECT	CAPACITY	% of Total	TRANSMISSION	% of Total	ENERGY	% of Total	TOTAL	% of Total
NUC. MIX #1 MILLSTONE	729,695	3.2%	17,804	0.1%	159,373	0.5%	906,872	1.3%
NUC. MIX #1 SEABROOK	59,747	0.3%	155	0.0%	15,729	0.0%	75,631	0.1%
PROJ. #3 MILLSTONE	524,911	2.3%	12,729	0.1%	122,204	0.4%	659,845	0.9%
PROJ. #4 SEABROOK	1,474,477	6.4%	3,535	0.0%	386,027	1.2%	1,864,039	2.7%
PROJ. #5 SEABROOK	185,141	0.8%	436	0.0%	47,635	0.1%	233,213	0.3%
NYPA	86,736	0.4%	634,410	4.2%	149,153	0.5%	870,299	1.2%
STONYBROOK PEAKING PROJECT	615,915	2.7%	28,123	0.2%	39,522	0.1%	683,561	1.0%
STONYBROOK INTERMEDIATE PROJECT	2,043,772	8.9%	53,885	0.4%	3,372,731	10.5%	5,470,388	7.8%
ISO-NE	16,279,544	71.1%	14,241,905	95.0%	6,076,769	18.9%	36,598,218	52.2%
NEMA CONGESTION					120,000	0.4%	120,000	0.2%
BRAINTREE WATSON	796,349	3.5%			426,074	1.3%	1,222,423	1.7%
BATTERY STORAGE - NORTH READING	137,232	0.6%			2,567,382	8.0%	2,704,614	3.9%
HYDRO QUEBEC SUPPORT SERVICES	(49,200)	-0.2%				0.0%	(49,200)	-0.1%
REMVEC					10,200	0.0%	10,200	0.0%
EXELON					4,973,286	15.4%	4,973,286	7.1%
BP ENERGY					1,211,870	3.8%	1,211,870	1.7%
SHELL ENERGY					5,783,059	18.0%	5,783,059	8.3%
SWIFT RIVER HYDRO					1,682,953	5.2%	1,682,953	2.4%
SUMMIT HYDRO					1,432,925	4.5%	1,432,925	2.0%
COLLINS HYDRO					392,326	1.2%	392,326	0.6%
PIONEER HYDRO					370,917	1.2%	370,917	0.5%
HOSIERY MILL HYDRO					147,406	0.5%	147,406	0.2%
SADDLEBACK WIND					1,352,990	4.2%	1,352,990	1.9%
JERICHO WIND					778,910	2.4%	778,910	1.1%
ONE BURLINGTON SOLAR/ALTUS/KEARSAGE					545,555	1.7%	545,555	0.8%
COOP / RESALE					25,200	0.1%	25,200	0.0%
TOTAL	**22,884,320**	**100.0%**	**14,992,983**	**100.0%**	**32,190,196**	100.0%	**70,067,498**	**100.0%**

NYPA : New York Power Authority
ISO-NE: Independent System Operator - New England
REMVEC: Rhode Island, Eastern Massachusetts, Vermont, Energy Control
NEMA: Northeast Massachusetts

Description of RMLD's Power Supply

Stony Brook Intermediate Unit

The Stony Brook Intermediate Unit is a 354-megawatt, combined-cycle power plant that entered commercial operation in 1981.

The unit's three gas turbines generate electricity using either No. 2 oil or natural gas, with additional electricity produced using a single steam turbine in the combined-cycle process. MMWEC completed construction of a natural gas pipeline to serve the Intermediate Unit in September 2002. The RMLD has a Life of Unit (LOU) entitlement for 14.453% of the unit or approximately 51 Mws. The RMLD has paid off the debt service associated with this project.

Quick Facts – Stonybrook Intermediate Unit

Location	Ludlow, Massachusetts
On-Line Date	1981
Fuel	No. 2 oil/natural gas
Principal Owner/Operator	MMWEC
Total Capacity	354 megawatts

Stony Brook Peaking Unit

The Stony Brook Peaking Unit is a 172-megawatt peaking plant that entered commercial operation in 1982.

The unit's two turbines generate electricity using No. 2 oil. The RMLD has a Life of Unit (LOU) entitlement for 19.516% of the unit which is equivalent to approximately 33 Mws. The RMLD has paid off the debt service associated with this project.

Quick Facts – Stonybrook Peaking Unit

Location	Ludlow, Massachusetts
On-Line Date	1982
Fuel	No. 2 oil
Principal Owner/Operator	MMWEC
Total Capacity	172 megawatts

Braintree Electric Light Department - Watson Unit

The simple-cycle gas fired plant is powered by the first two Rolls-Royce Trent 60 gas turbines built for the U.S. power generation market – known as Watson Units #1 and #2. The units entered commercial operation on June 23, 2009.

Both Watson Units are bid into the ISO New England markety system daily and are dispatched based on their bid price.

The units two turbines generate electricity using natural gas, with No. 2 oil as backup fuel. The RMLD has a 20 year entitlement for 10% of the unit which is equivalent to about 10 Mws.

Quick Facts – Watson Unit

Location	Braintree, Massachusetts
On-Line Date	2009
Fuel	Natural gas/No. 2 oil
Principal Owner/Operator	BELD
Total Capacity	100 megawatts

Seabrook Station

Seabrook Station is a 1,244-megawatt nuclear generating plant located in Seabrook, New Hampshire. An operating license for Seabrook was issued in 1986, but the plant did not begin commercial operation until 1990. The principal owner and operator of Seabrook Station is NextEra Energy Resources LLC, a subsidiary of Florida based FPL

Group, Inc. NextEra owns 88.2% of Seabrook Station. The other owners are MMWEC (11.59%) and two Massachusetts municipal utilities, the Taunton Municipal Lighting Plant (0.13%) and Hudson Light & Power Department (0.08%).

NextEra has announced plans to seek an extension of its Seabrook operating license from the current license expiration of 2030 to 2050. RMLD signed 3 different projects to finance Seabrook, Mix 1, Project 4, and Project 5. The debt service associated with these projects will be paid-off in 2014, 2017 & 2018 respectively. The RMLD has a Life of Unit (LOU) for 0.635% or approximately 8 Mws of the unit.

Quick Facts – Seabrook Station

Location	Seabrook, New Hampshire
On-Line Date	1990
Fuel	Nuclear – Pressurized Water Reactor
Principal Owner/Operator	NextEra Energy Resources, LLC
Total Capacity	1,244 megawatts

Millstone Unit 3

Millstone Unit 3 is a 1,237-megawatt nuclear generating plant located in Waterford, Connecticut. Millstone Unit 3, which began operation in 1986, is the newest and largest of the Millstone Station's three nuclear units, one of which is retired from service. The principal owner and operator of Millstone Station is Dominion Nuclear Connecticut, Inc., a subsidiary of Virginia-based Dominion Resources, Inc. Dominion Connecticut owns 93.4% of Millstone Unit 3.

The Nuclear Regulatory Commission (NRC) on November 28, 2005 approved Dominion Nuclear Connecticut's request for a 20-year operating license extension for Millstone's Unit 3 reactor. The license now expires in November, 2045. RMLD signed two different projects to finance Millstone #3, Mix 1 and Project 3. The debt service associated with these projects will be paid off in 2014 & 2018 respectively. The RMLD has a LOU agreement for 0.404% of the units which equates to approximately 4.6 Mws.

Quick Facts – Seabrook Station

Location	Waterford, Connecticut
On-Line Date	1986
Fuel	Nuclear – Pressurized Water Reactor
Principal Owner/Operator	Dominion Nuclear Connecticut, Inc.
Total Capacity	1,237 megawatts

New York Power Authority (NYPA)

The RMLD receives inexpensive hydroelectric power from the NYPA. RMLD receives capacity and energy from this contract. The Massachusetts Department of Public Utilities (DPU) has appointed MMWEC as the administrator of this contract. The current contract expires in 2025.

Hydro-Quebec Interconnection

The Hydro-Quebec Interconnection is an approximate 2000 Mw, direct current electric transmission line connecting central New England with the Canadian utility Hydro Quebec. Construction of the U.S. portion of the interconnection, which stretches from Groton/Ayer, in Massachusetts to the Canadian border in northern Vermont, was a joint effort of many New England utitilies. The RMLD receives approximately 4.5 Mws of capacity from this contract.

Shell Energy

In November, 2014 the RMLD signed a system power contract with Shell Energy that is effective from January 1, 2015 through December 31, 2018. The RMLD receives enery only from this contract. The amount of energy purchased fluctuates on a monthly basis for both the on-peak and off-peak period. RMLD has secured fixed pricing for this contract.

Exelon

In May, 2015 the RMLD signed a system power contract with Exelon that is effective from January 1, 2016 through December 31, 2019. The RMLD receives energy only from this contract. The amount of energy purchased fluctuates on a monthly basis for both the on-peak and off-peak period. RMLD has secured fixed pricing for this contract.

EDF Trading

In June, 2016 the RMLD signed a system power contract with EDF Trading that is effective from January 1, 2017 through December 31, 2018. The RMLD receives energy only from this contract. The amount of energy purchased fluctuates on a monthly basis for both the on-peak and off-peak period. RMLD has secured fixed pricing for this contract.

NextEra

In June, 2016 the RMLD signed a system power contract with NextEra that is effective from January 1, 2019 through December 31, 2020. The RMLD receives energy only from this contract. The amount of energy purchased fluctuates on a monthly basis for both the on-peak and off-peak period. RMLD has secured fixed pricing for this contract.

NextEra

In December, 2017 the RMLD signed a master agreement as well as a Transaction Facilitation Agreement with NextEra that enables RMLD to leverage NextEra's trade floor. RMLD approved a Risk Management Strategy that secures transactions based on price and time triggers. The Risk Management Strategy will permit RMLD to take advantage of price opportunities consistently over the next several years and beyond. This strategy will allow RMLD to secure monthly quantities that are below the four year average versus locking in annual quantities. Additionally, the strategy of utilizing time triggers will smooth out variations in the market over time.

Eagle Creek Energy Holdings

In March, 2011 the RMLD signed a purchase power agreements with Swift River Hydro LLC for the output of four hydro systems located in Massachusetts that are effective from February 1, 2011 through January 31, 2026. The Swift River Trading Company is the lead market participant for and represents these hydroelectric generators with a total nameplate capacity of approximately 7 Mws and average annual generation of 25,000 megawatt-hours per year.

These facilities include the Woronoco Hydro facility in Russell, MA, Pepperell Hydro in Pepperell, MA; Indian River Power Supply in Russell, MA; and Turners Falls Hydro in

Turners Falls, MA. Each of these facilities is owned by a special purpose entity, e.g., the Woronoco facility is owned by Woronoco Hydro LLC. In 2016, Swift River Trading Company assigned the projects to Eagle Creek Energy Holdings. The four facilities are now managed by the Eagle Creek Energy Holdings as the lead market participant for each of the facilities. RMLD is the only buyer.

- **Pepperell Hydro:** 15 year term beginning on February 1, 2011 and ending January 31, 2026. RMLD is purchasing all of the products produced by or attributable to the facility. The facility has a nameplate capacity of 1.9 Mws. The products include, but are not limited to, Energy, Installed Capacity, Ancillary Services, Renewable Energy Certificates and Environmental Attributes (to the extent not included in the RECs). The contract price for these products is $100/Mwh for the first year, escalated 2.25% thereafter.

- **Woronoco Hydro:** 15 year term beginning on February 1, 2011 and ending January 31, 2026. RMLD is purchasing all of the products produced by or attributable to the facility. The facility has a nameplate capacity of 2.7 Mws. The products include, but are not limited to, Energy, Installed Capacity, Ancillary Services, Renewable Energy Certificates and Environmental Attributes (to the extent not included in the RECs). The contract price for these products is $100/Mwh for the first year, escalated 2.25% thereafter. The facility is not currently qualified for FCM. Until the Seller qualifies the facility for FCM the contract price is reduced by $5.00/Mwh.

- **Turners Falls Hydro:** 15 year term beginning on February 1, 2011 and ending January 31, 2026. RMLD is purchasing all of the products produced by or attributable to the facility. The facility has a nameplate capacity of 1 Mw. The products include, but are not limited to, Energy, Installed Capacity, Ancillary Services, Renewable Energy Certificates and Environmental Attributes (to the extent not included in the RECs). The contract price for these products is $100/Mwh for the first year, escalated 2.25% thereafter. The facility is not currently qualified for FCM. Until the Seller qualifies the facility for FCM the contract price is reduced by $5.00/Mwh.

- **Indian River Hydro:** 15 year term beginning on February 1, 2011 and ending January 31, 2026. RMLD is purchasing all of the products produced by or attributable to the facility. The facility has a nameplate capacity of 1.4 Mws. The products include, but are not limited to, Energy, Installed Capacity, Ancillary Services, Renewable Energy Certificates and Environmental Attributes (to the

extent not included in the RECs). The contract price for these products is $100/Mwh for the first year, escalated 2.25% thereafter. The facility is not currently qualified for FCM. Until the Seller qualifies the facility for FCM the contract price is reduced by $5.00/Mwh.

Collins Hydro

In August, 2013 the RMLD signed a purchase power agreements with Swift River Hydro LLC.for the output of Collins Hydro located in between Ludlow and Wilbraham Massachusetts. The contract with Swift River Hydro is effective from September 1, 2013 through August 31, 2028. The RMLD receives enery only from this contract. The average annual generation is approximately 5,667 megawatt-hours per year.

Pioneer Hydro

In August, 2013 the RMLD signed a purchase power agreements with Ware River Power Inc. for the output of Pioneer Hydro located in Ware, Massachusetts. The contract for Pioneer Hydro is effective from September 1, 2013 through August 31, 2028. The RMLD receives enery only from this contract. The average annual generation is approximately 4,480 megawatt-hours per year.

Hoisery Mills Hydro

In March, 2014 the RMLD signed a purchase power agreements with Silver Street Hydro Inc. for the output of Hosiery Mills located in Hillsborough, New Hampshire. The contract for Hosiery Mills Hydro is effective from March 1, 2014 through February 28, 2034. The RMLD receives enery only from this contract. The average annual generation is approximately 2,046 megawatt-hours per year.

Aspinook Hydro

In August, 2016 the RMLD signed a purchase power agreements with Aspinook Hydro Inc. for the output of Aspinook Hydro located in Connecticut. The contract is effective from August, 2016 through August, 2017. The RMLD receives enery only from this contract. The average annual generation is approximately 9,300 megawatt-hours per year.

Saddleback Ridge Wind

In December, 2013 the RMLD signed a purchase power agreement with Saddleback Ridge Wind, LLC for the output of Saddleback Ridge Wind located in Carthage, Maine. The contract for Saddleback Ridge Wind is effective from January 1, 2015 through December 31, 2035. The RMLD receives enery plus all attributes this contract. The average annual generation is estimated to be approximately 15,820 megawatt-hours per year.

Jericho Wind

In November, 2014 the RMLD signed a purchase power agreements with Jericho Power, LLC for the output of Jericho Wind located in Berlin, New Hampshire. The contract for Jericho Wind is for 20 years. The project went Commercial December, 2015. The RMLD receives energy plus all attributes from this contract. The average annual generation is estimated to be approximately 10,788 megawatt-hours per year.

One Burlington - Solar

In March, 2015 the RMLD signed a purchase power agreement with CREECA Energy LLC for the output of 2,000 kW AC solar array located at One Burlington Ave., Wilmington, Massachusetts. The solar array went on-line in November, 2015. The term of the contract for One Burlington is effective for ten years. The average annual generation is estimated to be approximately 3,450 megawatt-hours per year.

Altus Power – Community Solar

In March, 2016 the RMLD signed a purchase power agreement with ECA Solar LLC for the output of 1,000 kW AC solar array located at 326 Ballardvale Street, Wilmington, Massachusetts. The solar array went on-line in June, 2017. In May, 2017 the contract was assigned to Altus Power America, Inc DBA WL MA Solar LLC. The term of the contract for WL MA Solar LLC is effective for twenty years. The average annual generation is estimated to be approximately 1,700 megawatt-hours per year. RMLD has developed a Community Shared Solar program called Solar Choice. This project is RMLD's first Solar Choice project and is fully subscribed by 500 residential customers.

Kearsage – Community Solar

In October, 2017 the RMLD signed a purchase power agreement with Kearsage Wilmington LLC for the output of 1,800 kW AC solar array located at 40-50 Fordham Road, Wilmington, Massachusetts. The solar array went on-line in February, 2018. The term of the contract for Kearsage Wilmington LLC is effective for twenty years. The average annual generation is estimated to be approximately 2,376 megawatt-hours per year. This project is RMLD's second Solar Choice project and is fully subscribed by 617 residential/commercial customers.

Energy Storage – NextEra

In December, 2017 (RMLD) was recently awarded a $1 million grant for the installation of an energy storage unit at its North Reading substation. The grant is funded by the Department of Energy Resources (DOER). RMLD's project consists of installing a 5-megawatt Lithium Ion Battery unit at its North Reading substation to reduce peak demand, thereby lowering future transmission and capacity costs related to the purchase of wholesale electricity. The battery unit will be co-located with RMLD's new 2.5-megawatt Distributed Generator. RMLD is negotiation an Energy Storage Agreement with NextEra. The Energy Storage unit is expected to be on-line by December, 2018.

PROPOSED RATE ADJUSTMENTS
ATTACHMENT 2

FY19 Rate Presentation

Board of Commissioners

May 8, 2018

Strategic Rate Design Objectives
Cost of Service Study 2017

- Reduce or eliminate subsidies between and within classes of customers
- Ensure that rates for large, high load factor customers can attract and retain such customers
- Make rates more reflective of the cost of providing service
- Provide price signals that encourage customers to reduce demand during peak periods and to increase usage during off-peak periods
- Phase-in changes over period of time to permit customers time to respond and adjust

FY18 Recommendation:
Phase-In Scenario 3 Over 5 Years

Instead of increases of between 5½ and 6½ percent, average bills would change by the following percentages in FY18:

	Scenario 1 Uniform Increase	Scenario 3 Move to Uniform ROR
• Residential	5.6%	6.6%
• Residential TOU	5.7%	7.6%
• School	6.5%	4.7%
• Commercial	5.7%	3.5%
• Industrial	6.0%	6.1%

FY19 RECOMMENDATION:
Phase-In Scenario 3 Over 4 Years

In order to phase in the Residential customer to a 0% ROR the bills would change by the following percentages in FY19:

	Scenario 1 Uniform Increase	Scenario 3 Move to Uniform ROR
• Residential	2.4%	2.7%
• Residential TOU	1.8%	2.3%
• School	2.1%	2.0%
• Commercial	1.7%	1.4%
• Industrial	1.9%	1.7%

RECOMMENDATION:
Residential Time-of-Use Rate

- Phase-in the elimination of the time-of-use Distribution energy charge and replace with flat rate energy charge
- Phase in an annual increase in the Distribution Charge over four years to produce a zero rate of return comparable to the base Residential rate
- Phase-in an on-peak and off-peak Fuel charge (RMLD uses this in the Industrial TOU rate)
- Phase in the on-peak Purchased Capacity and Transmission charge over five years

FY 2019 - Proposed Rate Increase
Comparative Rates Present/Proposed
Scenario 1

Residential

	500 kWh	750 kWh	1000 kWh
Present	$82.82	$122.19	$161.55
Proposed	$84.79	$125.01	$165.25
Difference	$1.97	$2.82	$3.70
% Change	2.37%	2.31%	2.29%
Cost per kWh Present	$0.16564	$0.16292	$0.16155
Cost per kWh Proposed	$0.16957	$0.16669	$0.16525

Residential Hot Water

	1000 kWh	1500 kWh	2000 kWh
Present	$149.07	$221.56	$294.04
Proposed	$152.09	$225.97	$299.85
Difference	$3.02	$4.41	$5.81
% Change	2.02%	1.99%	1.98%
Cost per kWh Present	$0.14907	$0.14770	$0.14702
Cost per kWh Proposed	$0.15209	$0.15064	$0.14992

Residential Time of Use

	1000 kWh	1500 kWh	2000 kWh
Present	$141.16	$208.59	$276.01
Proposed	$143.75	$212.29	$280.82
Difference	$2.59	$3.70	$4.81
% Change	1.83%	1.77%	1.74%
Cost per kWh Present	$0.14116	$0.13906	$0.13801
Cost per kWh Proposed	$0.14375	$0.14153	$0.14041

Residential Low Income

	500 kWh	750 kWh	1000 kWh
Present	$78.73	$118.10	$157.46
Proposed	$80.47	$120.70	$160.94
Difference	$1.74	$2.60	$3.48
% Change	2.21%	2.20%	2.21%
Cost per kWh Present	$0.15747	$0.15747	$0.15746
Cost per kWh Proposed	$0.16095	$0.16093	$0.16094

Residential Hot Water Low Income

	1000 kWh	1500 kWh	2000 kWh
Present	$144.97	$217.46	$289.94
Proposed	$147.76	$221.64	$295.53
Difference	$2.79	$4.19	$5.58
% Change	1.93%	1.93%	1.93%
Cost per kWh Present	$0.14497	$0.14497	$0.14497
Cost per kWh Proposed	$0.14776	$0.14776	$0.14776

Residential Time of Use Low Income

	1000 kWh	1500 kWh	2000 kWh
Present	$134.84	$202.27	$269.69
Proposed	$137.08	$205.62	$274.15
Difference	$2.24	$3.35	$4.46
% Change	1.66%	1.66%	1.65%
Cost per kWh Present	$0.13484	$0.13485	$0.13484
Cost per kWh Proposed	$0.13708	$0.13708	$0.13707

Commercial

	Small	Medium	Large
Present	$2,256.13	$11,768.70	$52,364.62
Proposed	$2,292.38	$11,973.29	$53,155.58
Difference	$36.25	$204.59	$790.96
% Change	1.61%	1.74%	1.51%
Cost per kWh Present	$0.13608	$0.14102	$0.13269
Cost per kWh Proposed	$0.14385	$0.14928	$0.14012

Industrial Time of Use

	Small	Medium	Large
Present	$33,667.75	$87,159.59	$842,177.64
Proposed	$33,861.04	$88,804.65	$839,115.85
Difference	$193.29	$1,645.06	-$3,061.79
% Change	0.57%	1.89%	-0.36%
Cost per kWh Present	$0.10834	$0.11761	$0.10508
Cost per kWh Proposed	$0.11406	$0.12405	$0.11059

School Rate

	Small	Medium	Large
Present	$4,267.50	$12,608.99	$26,933.48
Proposed	$4,366.41	$12,874.42	$27,498.06
Difference	$98.91	$265.43	$564.58
% Change	2.32%	2.11%	2.10%
Cost per kWh Present	$0.12822	$0.12055	$0.12025
Cost per kWh Proposed	$0.13469	$0.12623	$0.12589

Co-Op Resale

	500 kWh

Municipal Street Light Formula Rate

FY 2019 - Proposed Rate Increase
Comparative Rates Present/Proposed
Scenario 3

Residential

	500 kWh	750 kWh	1000 kWh
Present	$82.82	$122.19	$161.55
Proposed	$85.09	$125.45	$165.83
Difference	$2.27	$3.27	$4.28
% Change	2.74%	2.67%	2.65%
Cost per kWh Present	$0.16564	$0.16292	$0.16155
Cost per kWh Proposed	$0.17018	$0.16727	$0.16583

Residential Hot Water

	1000 kWh	1500 kWh	2000 kWh
Present	$149.07	$221.56	$294.04
Proposed	$152.53	$226.62	$300.71
Difference	$3.47	$5.06	$6.66
% Change	2.32%	2.29%	2.27%
Cost per kWh Present	$0.14907	$0.14770	$0.14702
Cost per kWh Proposed	$0.15253	$0.15108	$0.15035

Residential Time of Use

	1000 kWh	1500 kWh	2000 kWh
Present	$141.16	$208.59	$276.01
Proposed	$144.50	$213.35	$282.19
Difference	$3.33	$4.76	$6.18
% Change	2.36%	2.28%	2.24%
Cost per kWh Present	$0.14116	$0.13906	$0.13801
Cost per kWh Proposed	$0.14450	$0.14223	$0.14109

Residential Low Income

	500 kWh	750 kWh	1000 kWh
Present	$78.73	$118.10	$157.46
Proposed	$80.74	$121.10	$161.47
Difference	$2.00	$3.00	$4.02
% Change	2.55%	2.54%	2.55%
Cost per kWh Present	$0.15747	$0.15747	$0.15746
Cost per kWh Proposed	$0.16148	$0.16147	$0.16147

Residential Hot Water Low Income

	1000 kWh	1500 kWh	2000 kWh
Present	$144.97	$217.46	$289.94
Proposed	$148.17	$222.26	$296.34
Difference	$3.20	$4.80	$6.40
% Change	2.21%	2.21%	2.21%
Cost per kWh Present	$0.14497	$0.14497	$0.14497
Cost per kWh Proposed	$0.14817	$0.14817	$0.14817

Residential Time of Use Low Income

	1000 kWh	1500 kWh	2000 kWh
Present	$134.84	$202.27	$269.69
Proposed	$137.70	$206.55	$275.39
Difference	$2.86	$4.29	$5.70
% Change	2.12%	2.12%	2.11%
Cost per kWh Present	$0.13484	$0.13485	$0.13484
Cost per kWh Proposed	$0.13770	$0.13770	$0.13769

Commercial

	Small	Medium	Large
Present	$2,256.13	$11,768.70	$52,364.62
Proposed	$2,284.81	$11,929.19	$52,995.09
Difference	$28.68	$160.50	$630.47
% Change	1.27%	1.36%	1.20%
Cost per kWh Present	$0.13608	$0.14102	$0.13269
Cost per kWh Proposed	$0.14385	$0.14928	$0.14012

Industrial Time of Use

	Small	Medium	Large
Present	$33,667.75	$87,159.59	$842,177.64
Proposed	$33,822.61	$88,688.00	$838,282.25
Difference	$154.87	$1,528.41	-$3,895.39
% Change	0.46%	1.75%	-0.46%
Cost per kWh Present	$0.10834	$0.11761	$0.10508
Cost per kWh Proposed	$0.11406	$0.12405	$0.11059

School Rate

	Small	Medium	Large
Present	$4,267.50	$12,608.99	$26,933.48
Proposed	$4,361.64	$12,863.53	$27,475.07
Difference	$94.14	$254.54	$541.59
% Change	2.21%	2.02%	2.01%
Cost per kWh Present	$0.12822	$0.12055	$0.12025
Cost per kWh Proposed	$0.13469	$0.12623	$0.12589

Co-Op Resale

	500 kWh

Municipal Street Light Formula Rate