I. Executive Summary

The Mansfield Municipal Electric Department (MMED) is an electric utility governed under the provisions of Massachusetts General Laws Chapter 164. The four primary objectives of MMED are:

1) To establish and work continually to ensure a safe working environment for its employees.

2) To ensure both short-term and long-term system reliability.

3) To provide competitive electric rates to its ratepayers.

4) To provide financial benefits to the Town of Mansfield in a manner consistent with sound financial management of the utility.

As a supplement to its FY18 Capital Improvement Plan, the MMED staff has prepared an FY18 Operating Budget to account for the ongoing operations and maintenance activities required to keep the existing physical plant in good operating condition. This planned maintenance is a major part of providing safe and reliable delivery of electric energy to MMED's 9,817 customers.

The FY18 Operating Budget submittal represents the period from July 2017 through June 2018. Both ‘Income’ and ‘Expenses’ (labor & material) have been accounted for in a detailed fashion designed to tie out all aspects of the budget. The Massachusetts Department of Public Utilities (DPU) Uniform System of Accounts has provided the basis for the categorization of these costs in accordance with the descriptions of those accounts in DPU literature.

Table 1: FY 2018 Operations Budget Summary:

FY18 Operations Budget Summary		
Description	**FY18 Requested Budget**	
Purchased Power	**$**	**12,942,650**[1]
Transmission		**4,613,873**
Distribution		**1,804,177**
Customer Service		**1,068,717**
Administrative & General		**948,554**
Total Before Depreciation	**$**	**21,377,970**
Depreciation		**2,545,172**
Discounts and Other Expenses		**1,206,322**
Total Operating Expenses	**$**	**25,129,465**
Operating Revenue		**25,696,055**
Other Income		**111,312**
Net Income	**$**	**677,902**
Misc. Credits to Surplus		**411,258**
Payment In Lieu of Taxes		**(648,640)**
Increase to Surplus	**$**	**440,520**
Rate of Return		**1.23%**

[1] Purchased Power expense (FY18) is significantly reduced by $2.3M due to retirement of MMWEC debt service

Table 2: A comparison of the proposed FY18 to the FY17 approved budget:

FY18/FY17 Budget Comparison			
Description	FY17 Approved Budget	FY18 Proposed Budget	Increase (Decrease)
Purchased Power	$ 14,447,121	$ 12,942,650	$ (1,504,471)
Transmission	4,396,965	4,613,873	216,908
Distribution	1,740,371	1,804,177	63,806
Customer Service	1,030,343	1,068,717	38,374
Administrative & General	921,720	948,554	26,834
Total Before Depreciation	$ 22,536,519	$ 21,377,970	$ (1,158,549)
Depreciation	2,351,040	2,545,172	194,132
Discounts and Other Expenses Less Other Income	1,156,506	1,095,010	(61,496)
Total Operating Expenses	$ 26,044,066	$ 25,018,153	$ (1,025,913)
Operating Revenue	27,062,629	25,696,055	(1,366,574)
Net Income	$ 1,018,563	$ 677,902	$ (340,661)
Misc. Credits to Surplus	411,907	411,258	(649)
Payment In Lieu of Taxes	(648,640)	(648,640)	-
Increase to Surplus	$ 781,830	$ 440,520	$ (341,311)
Rate of Return	1.91%	1.23%	-0.68%

Table 3: FY18 Statement of Income and Surplus

SALES OF ELECTRICITY	Total
Residential Sales	$ 10,090,229
Commercial	1,521,118
General Service Demand	6,115,128
Large General Service	6,972,037
Municipal Sales	997,543
Total Metered Sales:	**$ 25,696,055**
OPERATING EXPENSES	
Power Production Expenses	
MMWEC Power	(10,179,916)
NextEra Power	(2,762,734)
Total Power Production Expense:	**$ (12,942,650)**
Transmission Expenses	
Transmission Expense	(4,613,873)
Total Transmission Expense:	**$ (4,613,873)**
Distribution Expenses	
Operations Expenses	(126,000)
Operations Payroll	(592,893)
Maintenance Expenses	(308,450)
Maintenance Payroll	(776,835)
Total Distribution Expense:	**$ (1,804,177)**
Customer Accounts	
Customer Accounts Expenses	(329,900)
Customer Accounts Payroll	(738,817)
Total Customer Accounts Expense:	**$ (1,068,717)**
Administrative & General Expenses	
Administrative & General Expense	(481,650)
Administrative & General Payroll	(466,904)
Total Administrative & General Expense:	**$ (948,554)**
Discounts Taken:	(1,156,322)
Interest Income	6,372
Other Income Jobbing - Etc.:	104,940
Other Expense:	(50,000)
Depreciation Expense:	(2,545,172)
Net Income:	**$ 788,805**
Misc. Credit to Surplus	411,258
Misc. Debits to Surplus	0
Payment to Town in Lieu of Taxes	(648,640)
Net Increase (Decrease) To Surplus:	**$ 440,520**

II. MMED Income:

Table 4: Income sources for MMED:

SALES OF ELECTRICITY	Total
Residential Sales	$ 10,090,229
Commercial	1,521,118
General Service Demand	6,115,128
Large General Service	6,972,037
Municipal Sales	997,543
Total Metered Sales:	**$ 25,696,055**
Other Income (Fiber, Jobbing, etc.)	**$ 104,940**
Misc. Credit to Surplus:	**$ 411,258**
Total Income:	**$ 26,212,253**

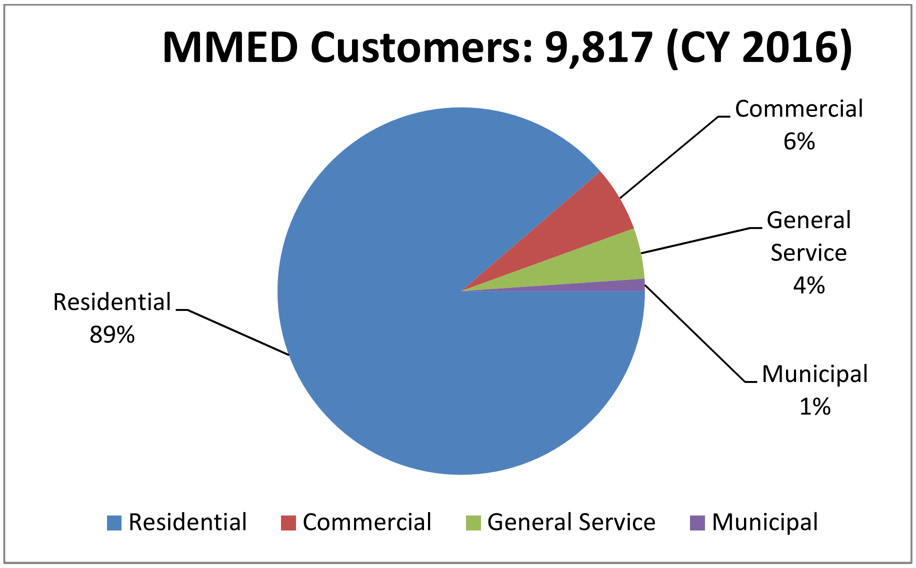
Under Massachusetts General Laws, a municipal plant can earn up to 8% annually of the gross plant in service. MMED's retail rates are based on an unbundled rate structure that the MMED Light Commission approved effective on July 1, 2017. Revenue generated by MMED rates goes to support operating costs, capital improvement costs, as well as producing a net income for the Department.

Electric Sales (Historical & Projected):

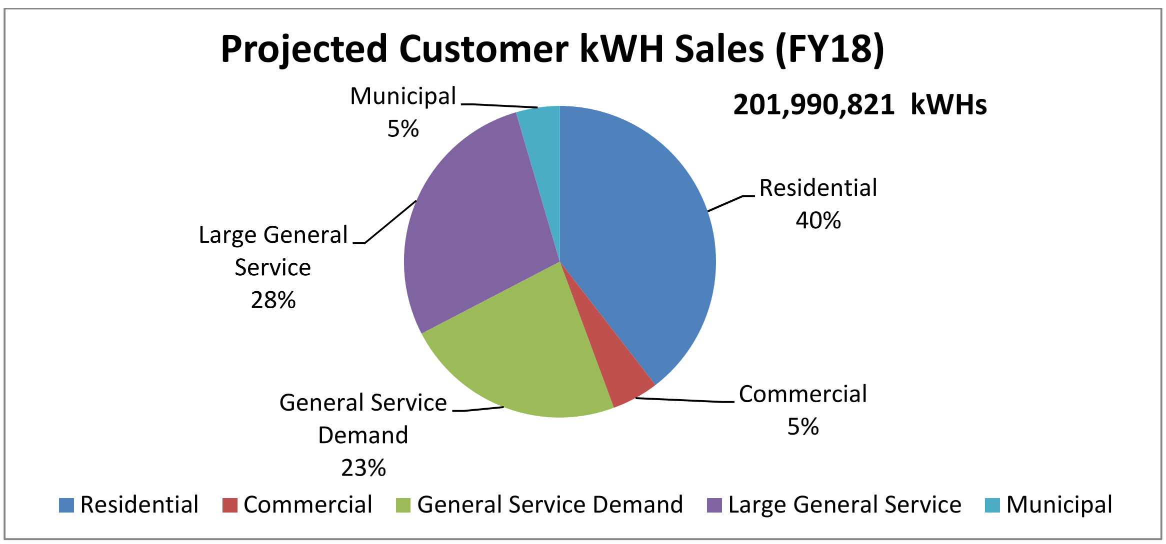
Table 5: Summary of MMED's Actual Energy Sales (kWh) CY 2011 - CY 2016

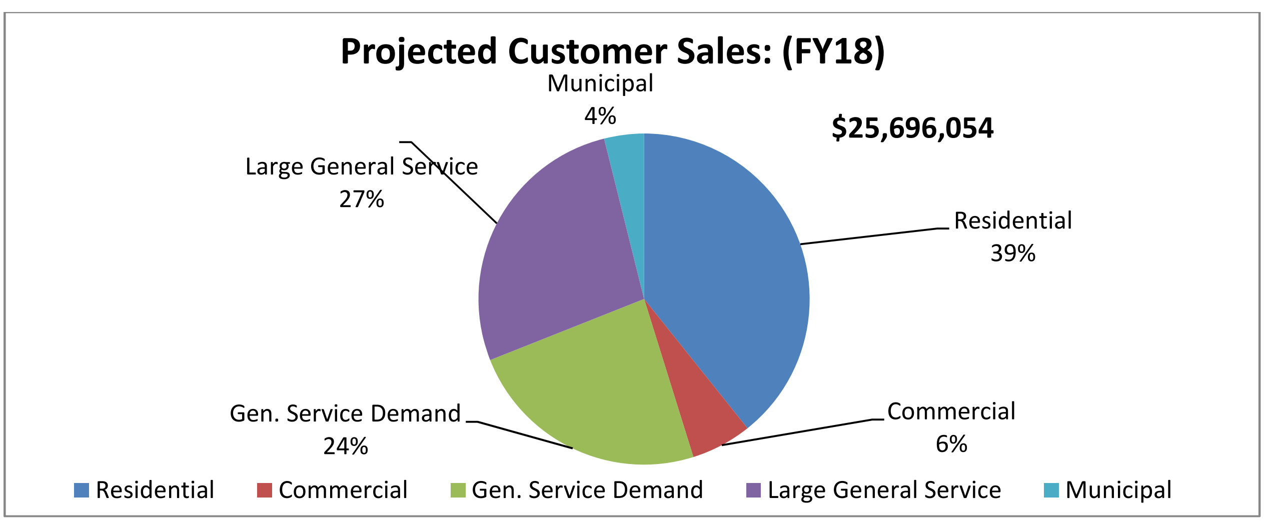
Calendar Year	*Energy Sales (kWh)*	*Increase (Decrease)*
2011	218,624,541	-
2012	210,368,373	(3.8%)
2013	208,909,462	(0.7%)
2014	202,928,042	(2.9%)
2015	208,450,716	2.7%
2016	205,312,697	(1.5%)

MMED serves a total of 9,817 customers by the following breakdown:



The projected Electric Sales for FY2018 is as follows:





For budgeting purposes, a 0.7% decrease in energy (kWh) sales from FY17 to FY18 is assumed.

Electric sales revenues are comprised within the following charges:

Customer Charge:
A flat surcharge is apportioned to each customer category type which covers all standard MMED costs that exist regardless of the amount of electricity that is consumed. Revenues received through Customer Charge support the operation and maintenance expenses of MMED such as the costs of meter reading, meter maintenance, customer service and billing.

Distribution Charge:
This rate is based upon the individual customer's energy consumption (kWH's) each month and reflects the costs associated with delivering energy from the distribution substations to homes and businesses in Mansfield. This includes the cost of constructing and maintaining all local distribution electrical lines.

> *Note: In 2011, MMED implemented a Net Metering Tariff to account for the impact of solar installations on MMED's costs. In that tariff, a Net Metering Recovery Surcharge was included to recover the fixed costs of operations that are lost when a customer takes energy from their solar installation instead of from MMED, resulting in lower Distribution Charge revenues.*

Purchased Power Charge:
This rate is based upon the individual customer's energy consumption (kWH's) each month and reflects the costs associated with power production and transmission of energy to the Mansfield distribution substations.

Mansfield obtains power production resources vary from long-term joint ownership in various generation plants (Nuclear, Oil, Natural Gas, & Wind) through Massachusetts Municipal Wholesale Electric Company (MMWEC), along with fixed contract price purchases (NextEra and Shell Oil), along with other short term hedges in the 'Spot Market' to cover open market positions which helps reduce exposure to price volatility.

> *Note: MMED has ownership of power supply plants that are scheduled to be paid in full in 2019. While such plant ownership in various plants are lowering power supply costs, Transmission rates have (& will) continue to increase over the next several years. As a result, the decline in overall energy prices will be offset by increases in transmission costs.*

Purchased Power Cost Adjustment (PPCA *prev. known as Generation Charge*):
This rate will be adjusted semi-annually to reflect changes in market conditions (i.e. price of fuel, supply factors, etc.). The PPCA Charge varies with market conditions and can fluctuate significantly depending on the time of year. The following tables reflect both the recent historical adjustments along with a projection (estimate) of future 'Purchased Power' charges.

Table 6: Recent historical PPCA ('Generation') charges:

Period	Billed Generation Charge
January – March 2016	9.50 cents
April – June 2016	8.73 cents
July - September 2016	9.55 cents
October - December 2016	10.62 cents
January- March 2017	9.54 cents
April – June 2017	9.25 cents

Note: Since approval of the new 'Rate Structures' MMED has fixed the (previously known) 'Generation Charge' with 'Purchased Power' charge. The addition of the 'Purchased Power Cost Adjustment' charge is set at zero. Any future market cost increases will be addressed within that adjustment factor.

Table 7: Projected FY18 'Purchased Power Cost Adjustment' charges:

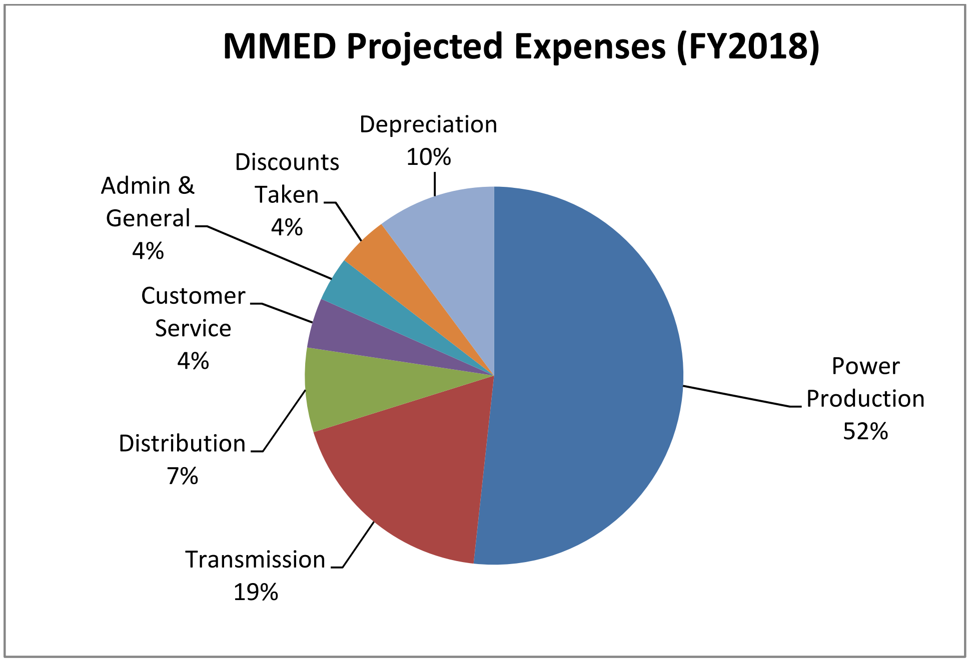
Period	Projected Generation Charge
July 2017 – June 2018	0.00 cents

Such projections are based on current commodity market pricing for future energy purchases during the FY18 period and are subject to change depending on market conditions at the time.

III. MMED Expenses:

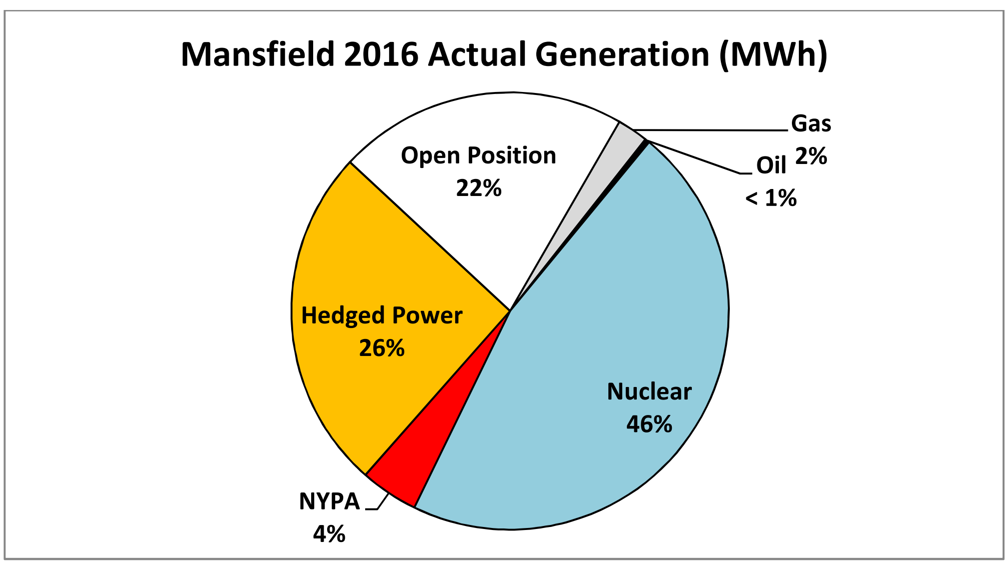
MMED estimates its total expenses for FY 2018 to be $25,129,465 over the following categories:

MMED Expenses (FY18)	Total
Power Production	$ 12,942,650
Transmission	4,613,873
Distribution	1,804,177
Customer Accounts	1,068,717
Admin & General Exp.	948,554
Depreciation Exp.	2,545,172
Discounts Taken	1,156,322
Other Assoc.	50,000
Total Expenses:	**$ 25,129,465**



Power Production:
For the twelve-month period ending in June 2018, the MMED budget for purchased power expense is $12,942,650. This represents 52% of the total operating budget request.

For MMED, There are three main sources of actual generation of electrical power broken out in the components below:



From those sources, there are five (5) main purchased power expenses:

1) MMWEC Project Expenses: MMED is a project participant in numerous Massachusetts Municipal Wholesale Electric Company (MMWEC) generation projects through Power Sales Agreements. As a project participant, MMED is required to pay its share of the fixed

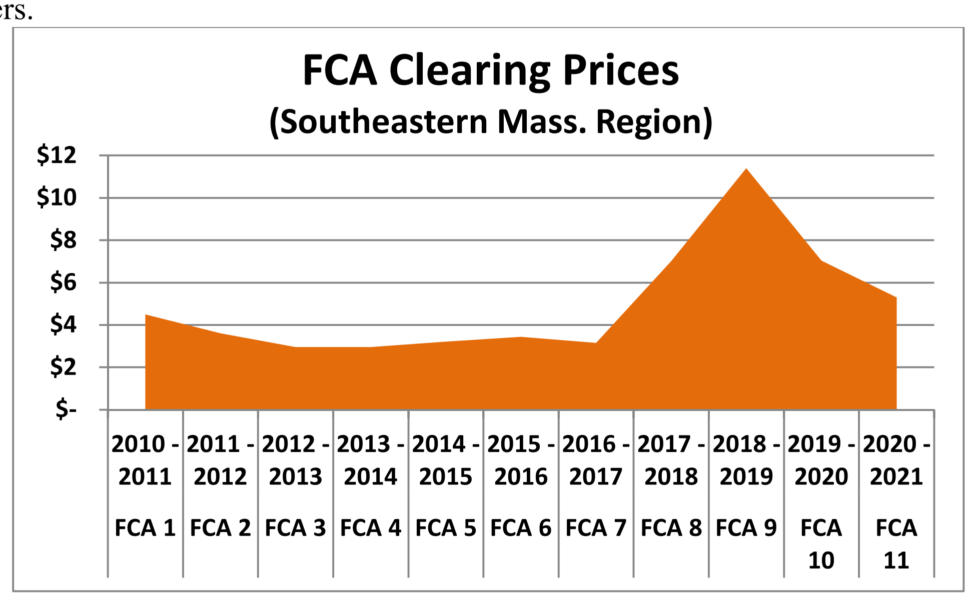
costs of the plants, which includes the debt service, as well as its prorated share of the operating costs associated with running the plants.

Note: MMED has also entered into PPA with MMWEC to purchase energy generated from a 51 MW wind farm in Hancock, Maine which started producing energy in January 2017 and will eventually supply approximately 4% of MMED's total energy requirements.

MMED ownership responsibility (debt service) is significantly reduced for this year and following years. MMWEC debt payments were about $3.8 million (FY15). In FY18 they will reduce dramatically and go to zero in FY20.

2) Forward Capacity Costs: In its continuing efforts to reward existing generators and encourage new generators in specific areas where there are constraints, the ISO has implemented a Forward Capacity Market (FCM) where it solicits bids through a Forward Capacity Auction (FCA) on an annual basis for a period 5 years in the future (the logic being it would take 5 years to build generation and the auction provides developers with the cash flow forecast for financing purposes). These monies are attributed to service providers (like MMED) and are awarded to generators for being available to generate on demand and the costs are distributed to all customers on a kWh basis and built into the cost of power purchased in the market.

The chart (below) illustrates the dramatic impact of the FCM auctions on MMED ratepayers.



This shows the clearing prices from the previous (11) auctions already completed. The results show a steady rate of about $3.50 per kW per month through FCA 7 (2016-2017). In FCA 8, however, the price increases to $7.025 per kW per month. In FCA 9 the price skyrockets to $11.80 for existing generators and to $17.73 for new generation in the MMED load zone. The last two FCA clearing markets showed a reduction in cost allocation. While there is speculation that the next market clearing price may remain steady, there are planned retirements of bulk power plants after 2023 and therefore the market conditions might see a dramatic increase in future markets.

The payments associated with Forward Capacity Market (FCM) have been constant for several years and are projected to remain at about $1 million per year through FY17. In FY18, however, the FCM payment will be about $2.4 million and in FY19 that payment will rise to almost $4 million.

MMED's increased costs in the FCM have offset savings anticipated when MMED's debt service with MMWEC. What was originally envisioned as about a 2 cent reduction in rates at the end of debt service, however, will now be completely swallowed by FCM payments.

3) Ancillary & ISO NE Market Costs: Represents the cost of operation the regional transmission network and market system, as well as the costs paid to generators for maintaining reserves of capacity and regulating the voltage on the network. This also reflects costs paid to generators to provide energy at a price above the spot market price when needed because of transmission constraints (uplift costs).

4) Spot Market Energy Purchases: To the extent that the sum of MMED's project entitlements and the NextEra contract either overstate or are deficient relative to MMED's actual hourly load, MMED then becomes either a purchaser or a seller into the spot energy market. Since achieving a perfect balance between actual load and entitlements on an hourly basis is impossible, MMED is either a purchaser or seller into this market every hour. Approximately 20% of MMED's energy is projected to be purchased off the spot market in FY17.

5) Purchase Power Contracts (NextEra / Shell Oil): In early 2013, MMED entered into fixed rate energy contract with NextEra Energy Power Marketing LLC for the period March 1, 1013 through December 2017. The terms of the contract call for delivery of energy at a weighted average of 5.1 cents/kWh over the life of the contract, an excellent price for a five year term.

   Under the contract MMED receives various quantities of energy each month, which in total provide approximately 26% of MMED's projected requirements in FY18.

   MMED recently approved the process of purchasing power directly into the market based upon ‘Price’ and ‘Time’ triggers. When MMED is within short duration, the purchase is made to fill the open position (i.e. ‘Time’ trigger). When the price is attractive enough below the average market price, then the purchase is made to fill the future open position (i.e. ‘Price’ trigger).

   From that process, MMED bid out in April 2017 and awarded a contract with Shell Oil to purchase (hedging contract) with about 40% of MMED’s Open position.

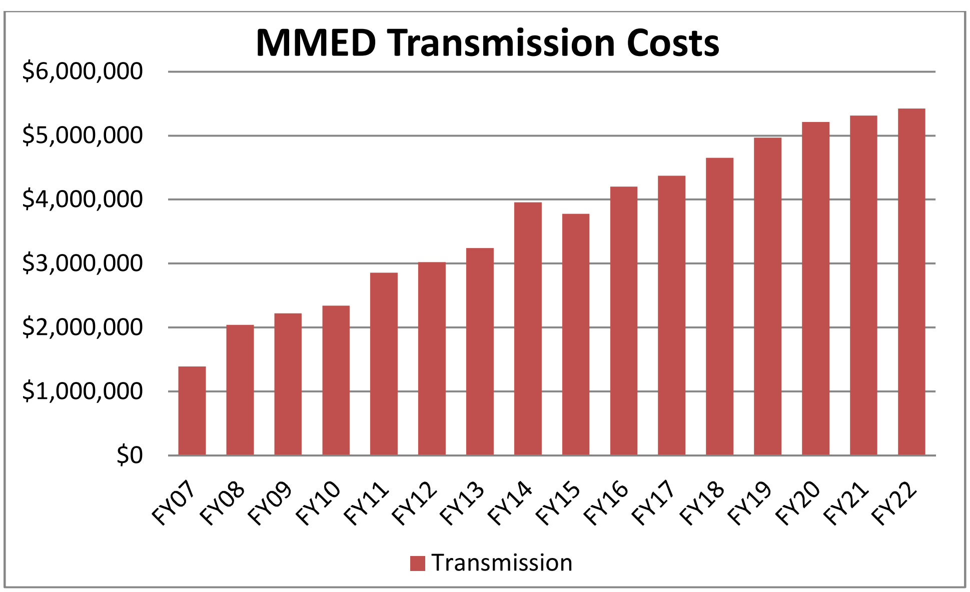
Transmission:
An increasingly expensive item in MMED's budget is the cost of transmission services associated with moving the power across the regional transmission network from the sources that ISO New England uses to supply the Mansfield load. For FY18, MMED has budgeted $4,613,873 to cover its cost of transmission. The FY18 projected cost of transmission is 0.5% more than the FY17 budget and MMED is expected to purchase .7% less kWh. Transmission costs represent 18% of the operating budget request.

Further escalation of transmission costs is due to two main factors;

(1) There is a vast amount of transmission plant coming on-line in the next several years. Between 2002 and 2012, the amount of transmission infrastructure placed in service increased from approximately $4.8 billion. The cost for this transmission is paid through the Regional Network Service (RNS) transmission rates that every utility in New England pays to move power.

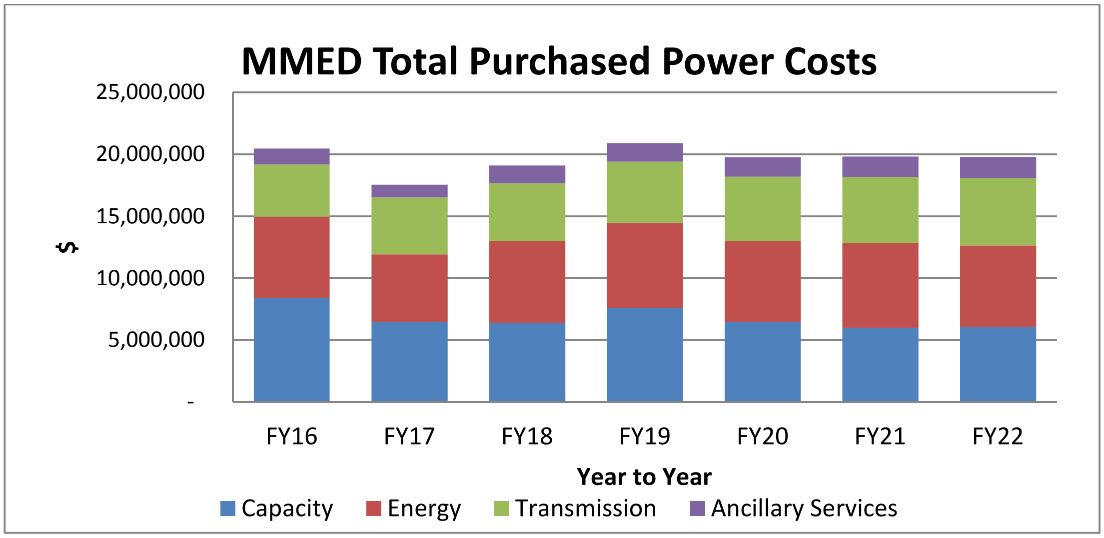
(2) As an incentive for transmission-owners to construct and maintain the transmission grid, the Federal Energy Regulatory Commission (FERC) had, at the urging of ISO New England, awarded "incentive rates of returns on equity" for transmission investment from a base of 11% to an incentivized rate of 13%. While FERC has shown some consideration to the consumers to evaluate 'cost', they reduced rate to the 11% range. Appeals by transmission owners are still ongoing.

MMED's cost per kWh for transmission is estimated at 2.27 cents in FY18. Since FY11 when the rate was 1.28 cents/kWh, the cost of transmission has increased about 70% based on the FY18 projection. The chart below shows both the actual and projected increases in Transmission costs.



These increases are being driven by a few factors. First, with a trend towards fewer generating facilities in New England there is a need to maximize the flexibility of the transmission grid so system expansion is ongoing. Secondly, there continues to be a strong push for alternative energy sources at the federal and state levels, particularly construction of wind energy facilities which can typically only be constructed on a mass scale in very remote areas (especially northern Maine) and for solar facilities. This will create further pressure to construct transmission lines, resulting in increased transmission rates.

In summary, MMED's 'Power Production' and 'Transmission' related expenses account for over 70% of the total budget for MMED. The following chart shows those projected expenses over the next few years:



Controllable Expenses:
MMED has identified the following 3 classes of operating expenses that it classifies as "controllable" expenses; (1) Distribution (2) Customer Accounts and (3) Administrative and General. Internal 'Labor Allocations' are built within each of the identified categories above but are summarized later in this report. The proposed FY18 budget for 'Controllable Expenses' represents an $129,014 increase from the approved FY17 budget, or a 3.5% increase.

NOTE:

- *MMED's Post Employment Health Care Liability (OPEB) are included. An actuarial amount of $179,000 is built within the labor component to account for those costs.*

- *Labor rates used in the FY18 budget reflect actual and anticipated contractual increases for the AFSCME and IBEW units, whose contracts were renewed until July 1st, 2018 (FY19).*

1) Distribution Expenses:

The bulk of expenses in this category are those incurred by MMED for the operation and maintenance of its distribution system. This includes the majority of the cost for labor expended by MMED on an annual basis.

MMED has also summarized its FY18 distribution budget request by DPU plant account category. The top two blocks (plant account categories 580 through 598) represent the operations and maintenance portions of the distribution expenses. The total budgeted cost of distribution for FY18 is $1,804,177 or 7.2% of the operating budget request. This is an increase of $63,806, or 3.7%, from the approved FY17 budget.

Most of the increase is due to the Maintenance of Overhead Lines account. The bulk of the increase in that account is due to additional labor. We also anticipate some additional equipment testing costs in FY18.

2) Customer Account Expenses

All of the costs associated with meter reading, customer service and the billing and collection of revenues to support MMED fall under this category. The bulk of the expenses are the labor for the Meter Readers, the Business Manager and Financial Assistants. The total budgeted cost of customer accounts for FY18 is $1,068,717, or 4.2% of the budget request. This is an increase of $38,374 from the approved FY17 budget. The bulk of the cost increases is for increased labor expenses in certain base rate market adjustments and cost of living increases.

3) Administrative and General Expenses

The administrative and general (A&G) expenses of MMED cover management salaries of the organization, office supplies and expenses, consulting and legal costs, insurance, cost for vehicular maintenance, and other miscellaneous expenses. The total budgeted cost for A&G for FY18 is $948,554. This represents 3.8% of the MMED operating budget request and is $26,834 more than the approved FY17 budget; due to an expected increase in legal and consulting costs

FY16 Actual vs FY17 Budget vs FY18 Proposed
Controllable Expenses

Plant Account	Code	FY 16 Actual	FY 17 Budget	FY 18 Budget Proposal	FY17/FY18 % Change
Operations Supervision and Engineering	580	$149,739	$ 165,388	$ 201,740	21.98%
Distrib. Station Operations	581	178,045	168,511	172,237	2.21%
Distrib. Station Expense	582	199,165	235,161	245,337	4.33%
Overhead Lines	583	33,373	29,000	34,000	17.24%
Underground Lines	584	14,918	10,200	13,200	29.41%
Meter Expenses	586	44,872	60,624	48,707	-19.66%
Customer Installation Exp.	587	3,940	3,040	3,670	0.00%
Maint. Structure	591	61,642	70,000	71,000	1.43%
Maint. Station Equipment	592	195	5,000	2,500	-50.00%
Maint. Overhead Lines	593	783,543	916,736	935,778	2.08%
Maint. Underground Lines	594	3,275	5,000	5,000	0.00%
Maint. Line Transformers	595	10,015	250	250	0.00%
Maint. Street Lighting	596	61,006	70,061	69,558	-0.72%
Maint. Of Meters	597	0	500	500	0.00%
Maint. Misc. Distr/Plant	598	0	900	700	-22.22%
Total Distribution Maintenance		**$ 1,543,728**	**$ 1,740,371**	**$ 1,804,178**	**3.67%**
Meter Reading Expenses	902	$ 199,527	$ 188,210	$ 183,565	-2.47%
Customer Records	903	714,712	723,132	768,652	6.29%
Bad Debts	904	80,000	80,000	80,000	0.00%
Misc. Customer Accounts	905	24,735	39,000	36,500	-6.41%
Total Customer Account Expenses		**$ 1,018,974**	**$ 1,030,342**	**$ 1,068,717**	**3.72%**
Administrative and General Salaries	920	$ 292,623	$ 309,789	$ 339,059	9.45%
Office Supplies	921	97,616	113,800	116,650	2.50%
Outside Services	923	153,522	178,000	176,000	-1.12%
Property Insurance	924	28,938	32,000	30,000	-6.25%
Property Damage Liability	925	320	0	0	0.00%
Miscellaneous Expense	930	169,276	162,633	170,846	5.05%
Rents	931	8,800	10,000	10,000	0.00%
Transportation	933	105,471	115,500	106,000	-8.23%
Total Admin & General Expenses		**$ 856,565**	**$ 921,722**	**$ 948,554**	2.91%
Grand Total		**$ 3,419,267**	**$ 3,692,435**	**$ 3,821,450**	**3.49%**

FY17 and FY18 Comparison
Distribution, Customer Accounts, and A&G

Plant Account	Description	FY17 Approved Budget	FY18 Proposed Budget	Increase/ (Decrease)
580	Operations Supervision and Engineering	$ 165,388	$ 201,740	$ 36,352
581	Distribution Station Operations (Dispatching)	168,511	172,237	3,726
582	Distribution Station Expenses	235,161	245,337	10,176
583	Overhead Line Expenses	29,000	34,000	5,000
584	Underground Line Expenses	10,200	13,200	3,000
586	Meter Expenses	60,623	48,707	(11,916)
587	Consumer Installation Expenses	3,039	3,670	631
	Total Distribution Operations	**$ 671,922**	**$ 718,891**	**$ 46,969**
590	Maintenance Supervision and Engineering	$ -	$ -	$ -
591	Maintenance of Structures	70,000	71,000	1,000
592	Maintenance of Station Equipment	5,000	2,500	(2,500)
593	Maintenance of Overhead Lines	916,736	935,778	19,042
594	Maintenance of Underground Lines	5,000	5,000	-
595	Maintenance of Line Transformers	250	250	-
596	Maintenance of Street Lights	70,061	69,558	(503)
597	Maintenance of Meters	500	500	-
598	Maintenance of Miscellaneous Distribution Plant	900	700	(200)
	Total Distribution Maintenance	**$ 1,068,447**	**$ 1,085,286**	**$ 16,839**
902	Meter Reading Expenses	$ 188,210	$ 183,565	$ (4,645)
903	Customer Records and Collection Expenses	723,133	768,652	45,519
904	Bad Debts	80,000	80,000	-
905	Miscellaneous Customer Account Expenses	39,000	36,500	(2,500)
	Total Customer Accounts	**$ 1,030,343**	**$ 1,068,717**	**$ 38,374**
920	Administration and General Salaries	$ 309,787	$ 339,059	$ 29,272
921	Office Supplies and Expenses	113,800	116,650	2,850
923	Outside Services Employed	178,000	176,000	(2,000)
924	Property Insurance	32,000	30,000	(2,000)
926	Employee Pensions and Benefits	-	-	-
930	Miscellaneous General Expenses	162,633	170,846	8,213
931	Rents	10,000	10,000	-
933	Transportation Equipment	115,500	106,000	(9,500)
	Total A&G Expense	**$ 921,720**	**$ 948,556**	**$ 26,836**
	Grand Total	**$ 3,692,432**	**$ 3,821,450**	**$ 129,018**

Labor Allocation

The following page shows MMED's FY18 Budget Request – Man hour Summary. This summary breaks out the man hour allocation for capital and operating work by employee that is projected for FY18. The FY18 labor cost in the capital and operating budgets does not include the estimated 107 man hours for each line worker that is allocated to billable work. That labor time is billed directly to the customer.

For the FY18 period, MMED's 21 employees will be paid for either 2,080 hours of straight time work (for those on a 40 hour work week) or 1,950 hours of straight time work (for those on a 37.5 hour work week). As a practical matter, because employees take vacation, sick, personal, holiday and other time off during the year as well as participate in job training, the number of hours actually worked and charged to a specific capital or operating account is only 80% to 85% of the total available man hours.

The costs associated with paying for all employee benefits are tracked and actual benefit costs are directly allocated to a particular operating account or capital account by employee.

Overhead costs are not allocated to overtime labor, however, as the costs associated with benefit allocation are recovered over the basic 40 or 37.5 hour work week.

MMED's goal is to allocate the total actual costs of doing business to each capital or operating account under which labor is expended.

In addition, MMED applies a stores expense rate to all material drawn out of inventory. This stores expense covers the cost of the MMED Procurement Clerk’s time, benefits and the operating costs associated with maintaining inventory.

FY18 Analysis Of Available Scheduled Manhours By MMED Employee
Manhour Summary July 2017 - June 2018

MMED Personnel Available For Capital Work	Total Work Hours (1)	Weather (2)	Vacation (3)	Sick/ Personal (4)	Holidays (5)	Operations and Maintenance (6)	Billable Work (7)	Capital Hours (8)
CHRIS TRASK	2,216	80	80	64	104	1,236	107	545
TAYLOR MILLER	2,216	80	80	64	104	1,236	107	545
RALPH BELLEVANCE	2,216	80	200	64	104	1,116	107	545
SHAWN CURRAN	2,216	80	200	64	104	1,116	107	545
PAUL DIGGIN	2,216	80	200	64	104	1,116	107	545
DAN ROMANKO	2,216	80	80	64	104	1,236	107	545
JAY THOMPSON	2,216	80	200	64	104	1,116	107	545
TOM WEIR	2,216	0	240	64	104	904	0	904
PAT CARROLL (9)	2,080	0	192	64	104	1,245	0	475
TIM MORAN (10)	2,216	0	200	64	104	1,848	0	0
CHRISTOPHER COX (11)	1,950	0	188	60	98	802	0	802
JOE SOLLECITO (12)	2,080	0	200	64	104	1,370	0	342
KEN THOMSON	1,950	0	150	60	98	1,642	0	0
LAURIE ANDERSON	1,950	0	180	60	98	1,612	0	0
KATHY CODELLA	2,054	0	83	60	98	1,813	0	0
JACQUELINE LEE	2,054	0	188	60	98	1,708	0	0
LARRY WELLS	2,054	0	75	60	98	1,821	0	0
NANCY OLSON	2,054	0	157	60	98	1,739	0	0
BRUCE DYKE	2,080	0	184	64	104	1,728	0	0
RONALD CUTILLO	2,216	0	240	64	104	1,808	0	0
JEFF HAYES	2,216	0	184	64	104	1,864	0	0
Totals	**44,682**	**560**	**3,542**	**1,316**	**2,142**	**31,980**	**749**	**4,393**

NOTES:

(1) Total hours for line personnel based on time worked during July through June (excludes emergency work).

Available man hours for productive work is total work hours less weather less vacation less sick/personal less holidays.

(2) Weather based on historical loss of productivity due to cold and wet weather conditions. Time charged to operations and maintenance.

(3) Vacation time based on full use of available vacation hours that each employee earns during the year.

(4) Sick and personal time usage based on an average of 5 sick days used per year as well as 3 personal days each year.

(5) Holidays based on 13 holidays (12 full days, 2 half days) available to employees during year.

(6) Operations and Maintenance time detailed in FY18 Operating budget.

(8) Capital hours for Linemen that are available for use in capital work plan is determined in detailed project summaries.

All other hours in capital work plan based on allocations set forth below.

(9) Meter Foreman time allocated 100% to maintenance for meter repair, meter reading and station operations.

(10) Meter Technician time allocated 100% to expense for meter reading.

(11) Electrical Engineer allocated 50% to capital, 50% to expense for normal hours worked. 37.5 hour work week.

(12) Director allocated 20% to capital, 80% to expense for normal hours worked. 40 hour work week.

(13) 17 Weeks of Scheduled Overtime has been budgeted for Operations Staff Personnel.

Depreciation

Depreciation expense is a significant line item in MMED's operating budget request. Under M.G.L. Chapter 164, Section 57, municipal light departments are required to set aside an amount each year for depreciation expense to be used solely for the purpose of "repairs, extensions, reconstruction, enlargements and additions" to the physical plant. In this manner, the Legislature ensured that money would always be made available through the collection of rates for rebuilding the infrastructure of an electric utility.

Presently, MMED's depreciation rate is 5% of gross plant depreciable assets. That rate has been in place since the 2011 because of the financing burden of the Bird Road substation and other major system infrastructure improvements. The plan is to re-evaluate the Depreciation schedule and Capital budget expenditures to determine if any adjustments are necessary.

Depreciation expense of $2,545,172, representing 10.1% of the proposed operating budget, is noted by a line item on the budget summaries on Pages 2 through 4. One-twelfth of this amount is transferred each month from operating cash to a segregated Depreciation Fund bank account and is drawn down on an as-needed basis to support capital improvement work.

This cost has increased dramatically in the last three years with the completion of the Bird Road substation, which has pushed MMED's gross plant value over $53 million. As noted earlier the increased depreciation expense directly impacts Net Income, although since it is a non-cash expense it does not reduce MMED's overall cash position but instead transfers funds between operating cash and the depreciation fund.

Discounts and Other Expenses

MMED offers a 20% discount on either the Distribution Charge or Distribution Demand Charge portion of the unbundled bill (depending on the class of customer) for prompt payment within 15 days of billing. The discount does not apply to the monthly Generation Charge, Customer Charge or any credit adjustments. The discount is not granted if the account is in arrears. MMED also offers alternate payment options such as credit card, direct debit, on-line internet bill payment and recurring credit card payment. There has been a significant increase in credit card payments in the last few years due to the aggressive collection efforts that MMED has undertaken.

Discounts are considered an operating expense on the Statement of Income and Surplus. MMED estimates discounts and other expenses of $1,206,322 in FY18. This represents 4.8% of the operating budget request.

IV. MMED Projected Net Income:

Based on projected revenues and anticipated operating expenses, MMED forecasts an FY18 Net Income of $677,902 under the current rate structure. This represents a 1.23% rate of return. The approved FY17 operating budget also projected a low Net Income in the amount of $1,018,563, or 1.91%. These are based on a conservative set of assumptions. Shown below is the trending of Net Income since FY11.

Net Income FY12 – FY18

Fiscal year	*Net Income*	*Change from Prior Year Increase (Decrease)*
FY 12[2]	$2,570,005	-
FY 13	$2,177,477	($392,528)
FY 14[2]	$1,727,818	($449,659)
FY15	$1,772,790	$44,972
FY16	$1,233,407	($539,383)
FY17 Budget	$1,018,563	$(214,844)
FY18 Proposed[3]	$677,902	($340,661)

While MMED has been able to keep rates low, in large part because of its ownership in power plants and because the cost of power is lower due to the drop in natural gas prices, the impact of increased operating costs has gradually eroded Net Income in the last several years. This impact is not fully reflected in operating cash because all capital improvements are now paid totally from the depreciation fund.

Overall, Net Income in the FY18 budget is 33.5% lower than the FY17 Net Income projection. The 0.7% projected decrease in Energy Sales has an impact in the FY18 Net Income forecast.

The increase in depreciation expense due to the addition of the capital improvement of the system and the loss of energy sales has contributed to the decline in Net Income. However with the new Rate Structures recently approved for FY18, the MMED system is much better protected from loss of 'Distribution' revenue.

Note: For example, with the new MMED rates, exposure to a reduction of energy sales by limiting the 'Distribution' revenue, a hypothetical loss of 20% of MMED's load will not substantially loss our competitive position in terms of other Massachusetts utilities.

While MMED is currently in a strong operating cash position, the aggressive capital improvement program under which MMED projects an expenditure of approximately $10.7 million over the next five years will strain its financial resources. As a result, MMED's capital program will require operating cash to fund a portion of the capital improvement work assuming MMED does not engage in borrowing.

[2] Net Income calculation discounts $2 million rebates issued in FY12 and FY14.

[3] Rate structure calls for 'Credit Factor' to return excess cash back to consumers – est. $3.5M over 2 years

V. MMED Budget Assumptions

The key assumptions used when compiling the FY18 capital and operating budgets are:

1) Labor rates used for this budget are based on actual current salary information for FY18.

2) The cost of benefits was based on the estimated annual benefit costs for each individual employee and is allocated monthly as a percentage of the employee's straight time hours versus all straight time hours worked.

3) Load is projected to decrease by .7% of energy sales (kWh) from FY17.

4) Even though overall revenues are effectively the same, the base electric rates assumed in this budget are reflective of the Rate Structures approved in March 2017 for scheduled implementation on July 1, 2017.

5) Depreciation expense is based on plant levels at 10/31/2016 less assets known to be fully depreciated. A regulatory accounting method of a 20 year life for all assets was used in calculating depreciation.

6) Labor amounts used in the operating budget were based on total hours estimated to be worked by each of MMED'S 21 employees less hours spent on capital improvements, as detailed in the Capital Budget, less labor expended on reimbursable projects.

7) Interest income accrues on specific MMED accounts: the Depreciation Fund; Guaranteed Deposits for customers providing a deposit for electric service; and the MMWEC Reserve Trust fund. Those interest amounts are included in the balances for each fund as shown on the Balance Sheet.

8) Controllable costs are budgeted evenly for each month during FY18, whereas projected purchased power expenses, transmission expenses and revenues are individually calculated on a monthly basis.

Conclusion

MMED's budget is an accurate estimate of operations and maintenance expenses for the FY18 and is consistent with the long term goals established by the Electric Board of Commissioners and communicated to the MMED staff.