# Mansfield Municipal Electric Department
# Operating Budget Fiscal Year 2021

## 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:

- To establish and work continually to ensure a safe working environment for its employees
- To ensure both short-term and long-term system reliability
- To provide competitive electric rates to its ratepayers
- To provide financial benefits to the Town of Mansfield in a manner consistent with sound financial management of the utility

MMED has prepared an FY21 Operating Budget to account for the ongoing operations and maintenance activities required to keep the existing physical plant in good operating condition.

**Table 1:** A comparison of the proposed FY21 to the FY20 approved budget:

| FY21/FY20 Budget Comparison<br>Description | FY20 Approved Budget | FY21 Proposed Budget | Increase (Decrease) |
|---|---|---|---|
| **Revenue** | **$ 27,561,531** | **$ 24,494,990** | **$ (3,066,541)** |
| Purchased Power Expense | $ 12,496,814 | $ 11,752,750 | $ (744,064) |
| Transmission Expense | 4,895,612 | 4,616,776 | (278,836) |
| Operating Non Power Expense | 3,960,527 | 4,304,405 | 343,878 |
| Total Before Depreciation | 21,352,953 | 20,673,930 | (679,023) |
| Depreciation | 1,697,998 | 1,267,566 | (430,432) |
| Discounts Less Other Income | 1,382,424 | 1,343,433 | (38,991) |
| **Total Expenses (Net Other Income)** | **24,433,375** | **23,284,930** | **(1,148,445)** |
| **Net Income** | **$ 3,128,156** | **$ 1,210,060** | **$ (1,918,096)** |
| Misc Credits to Surplus | (455,000) | - | 455,000 |
| Payment In Lieu of Taxes | 699,478 | 745,030 | 45,552 |
| **Increase to Surplus** | **$2,883,678** | **$465,031** | **$ (2,418,647)** |
| **Rate of Return** | **5.16%** | **1.96%** | **-3.20%** |

The FY21 Operating Budget submittal represents the period from July 2020 through June 2021. The Massachusetts Department of Public Utilities (DPU) Uniform System of Accounts has provided the basis for the categorization of these costs.

Under Massachusetts General Laws, a municipal plant can earn up to 8% annually of the gross plant in service. MMED's retail rates are approved by the MMED Light Board Commission and revised periodically (last July 1, 2018). Revenue generated by MMED rates goes to support operating costs, capital improvement costs, as well as producing a net income for the Department.

# Mansfield Municipal Electric Department
# Operating Budget Fiscal Year 2021

**Table 2:** FY20 Statement of Income and Surplus

| REVENUE: | | |
|---|---|---|
| Residential Sales | $ | 9,363,556 |
| Commercial | | 1,385,967 |
| General Service Demand | | 5,654,038 |
| Large General Service | | 7,172,321 |
| Municipal Sales | | 915,281 |
| **Total Metered Sales:** | **$** | **24,491,164** |
| Over/Under Generation | $ | 3,826 |
| **Total Power Revenue** | **$** | **24,494,990** |
| Other Income Jobbing - Etc.: | | (129,300) |
| **Total Power Revenue** | **$** | **24,624,290** |

| EXPENSES: | |
|---|---|
| **Power Production:** | **$11,752,750** |
| **Transmission:** | **$ 4,616,776** |
| **Non Power:** | **$ 4,304,405** |
| Discounts | 1,472,733 |
| Depreciation | 1,267,566 |
| **Total Operating Expense:** | **$ 6,915,404** |

| | | |
|---|---|---|
| **Net Income** | **$** | **1,210,060** |
| Misc. Surplus | | 0 |
| In Lieu of Taxes | | 745,030 |
| **Net change Surplus:** | **$** | **465,031** |

**Table 3:** Summary of MMED's Energy Sales (kWh) CY 2014 - CY 2019

| *Calendar Year* | *Energy Sales (kWh)* | *Increase (Decrease)* |
|---|---|---|
| ***2014*** | 202,928,042 | -2.90% |
| ***2015*** | 208,450,716 | 2.72% |
| ***2016*** | 205,312,697 | -1.51% |
| ***2017*** | 200,880,012 | -2.16% |
| ***2018*** | 209,522,749 | 4.30% |
| ***2019*** | 205,748,407 | -1.80% |

# Mansfield Municipal Electric Department
# Operating Budget Fiscal Year 2021

## II. MMED Statistics:

# Mansfield Municipal Electric Department
# Operating Budget Fiscal Year 2021

Electric sales revenues are comprised from 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.

Purchase 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 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 (Shell Energy), along with other short term hedges in the 'Spot Market' to cover open market positions which helps reduce exposure to price volatility.

Such rate may be adjusted quarterly to reflect changes in market conditions (i.e. price of fuel, supply factors, etc.). The Generation Charge varies with market conditions and can fluctuate significantly depending on the time of year.

Revenue projections are based on current commodity market pricing for future energy purchases during the FY21 period and are subject to change depending on market conditions at the time.

# Mansfield Municipal Electric Department
# Operating Budget Fiscal Year 2021

## III. MMED Expenses:

**Table 4:** Major Expense Categories:

| EXPENSES: | | Amount |
|---|---|---|
| Purchase Power | $ | 11,752,750 |
| Transmission Expense | | 4,616,776 |
| **Total Power Expense** | **$** | **16,369,525** |
| **Total Non-Power Operating Expense** | **$** | **4,304,405** |
| Depreciation Expense | | 1,267,566 |
| Discounts | | 1,432,733 |
| Energy Rebates | | 40,000 |
| **Other Expenses** | **$** | **2,740,299** |
| **TOTAL OPERATING EXPENSE** | **$** | **23,414,230** |

**Non Power Expense ( Labor vs Non Labor) Impact**

| Labor vs Non Labor Growth | | BUDGET 2020 | BUDGET 2021 | % |
|---|---|---|---|---|
| TOTAL Non Power Expense | Total | $ 4,001,528 | $ 4,304,405 | 7.6% |
| | Labor | $ 2,629,578 | $ 2,883,581 | 9.7% |
| | Non-Labor | $ 1,371,950 | $ 1,420,824 | 3.6% |

# Mansfield Municipal Electric Department
# Operating Budget Fiscal Year 2021

## Purchased Power:

For the twelve-month period ending in June 2021, the MMED budget for purchased power expense is $11,752,750. This represents 50.1% 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 resources, there are five (4) 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.

   MMED ownership responsibility (debt service) is significantly reduced for this year and the foreseeable future.

2) Hedged Energy – In 2017, MMED approved the process of purchasing power directly from the market based upon 'Price' and 'Time' triggers. When MMED is within short duration, the purchase is made to fill open positions (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). Under this process MMED has entered into contracts with:

- (3) with Shell Energy for a total of 111 million kWh at an average price of 4.8 cents per kilowatt-hour;
- (1) with EDF Energy for 27 million kWh at a price of 4.8 cents;
- (1) with Macquarie Energy for 10 million kWh at a price of 4.7 cents.

The transactions cover portions of MMED's energy requirements for 2018 through 2021.

3) Forward Capacity: In its continuing efforts to reward existing generators and encourage new generators in specific areas where there are constraints, the ISO has a Forward Capacity Market (FCM) to solicit 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 collected from 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 impact of the FCM auctions on MMED ratepayers.

This shows the clearing prices from the previous (14) 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 five FCA clearing markets showed a declining cost allocation to current value of $2.00 by 2023. *While there is speculation that the next market clearing price may remain steady, there are planned retirements of bulk power plants after 2023, therefore, the market conditions might see a dramatic increase in future market prices. In total economics, Forward Capacity Market (FCM) payments have increased for several years and peaked at over $3 million in FY19. Projections show a decrease to $0.5 million in FY24.*

4) Spot Market Energy Purchases: To the extent that the sum of MMED's project entitlements and the hedge contracts either overstate or are deficient relative to MMED's actual hourly load, MMED is either a purchaser or seller into this market every hour. Approximately 25% of MMED's energy is projected to be purchased off the spot market in FY21, although this may be reduced by additional hedging transactions.

## Transmission:

A significant expense 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 FY21, MMED has budgeted $4,616,776 to cover its cost of transmission. The FY21 projected cost of transmission is agreed to be 5.7% less than the FY20 budget. Transmission expense still represents 19.8% of the operating budget request.

The decrease in budgeted transmission costs is due to a much smaller-than-expected increase in the transmission charge from ISO-NE as well as the reflection of the impact of MMED's Distributed Generator in reducing the transmission billing peak each month.

MMED's cost per kWh for transmission is estimated at 2.29 cents in FY21. Since FY11 when the rate was 1.28 cents/kWh, the cost of transmission has increased about 80% based on the FY21 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.

# Mansfield Municipal Electric Department
# Operating Budget Fiscal Year 2021

In summary, MMED's 'Power Production' and 'Transmission' expenses account for over 70.2% of the total expense budget. The following chart shows those projected expenses over the next few years:

## Operating Expenses (Non-Power):

MMED identifies the following 5 classes of Non-power operating expenses;

(1) Distribution
(2) Customer Accounts and
(3) Administrative and General
(4) Depreciations
(5) Discounts and Other Expenses

Internal 'Labor Allocations' are built within each of the identified categories above. The proposed FY21 budget for Operating Expenses (Non-Power) represents a $302,877 increase from the approved FY20 budget, or a 7.6% increase. The increase is driven by increases in negotiated labor costs in FY21, increases in rate classes related to more experienced staff and increases to maintenance activities.

- *Labor rates and Benefit expenses used in the FY21 budget reflect actual and anticipated contractual increases for the AFSCME and IBEW units, whose contracts were renewed in September 2019 for FY 2020-2022. Also, (1) open position in FY20 is expected to be posted and filled in FY21 to reach MMED fully staffed level.*

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 category includes a majority of the cost for labor expended by MMED on an annual basis.

The total budgeted cost of distribution for FY21 is $2,053,839. This is an increase of $306,480 or 17.5% increase from the approved FY20 budget.

The increase in this account is primarily due to anticipated increases in negotiated labor costs in FY21 which are comprised of a 2.5% annual merit, increases in rate/step progression in classes related to more experienced staff and increased maintenance related activities.

2) Customer Account Expenses

All of the costs associated with meter reading, customer service and the billing and collection of revenues 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 FY21 is $1,050,571. This represents a $6,950 or 0.7% decrease from the approved FY20 budget. The bulk of the cost decreases represents lower meter overtime and less management time allocated to this function.

3) Administrative and General Expenses

The administrative and general (A&G) expenses cover management salaries, 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 FY21 is $1,199,994. This represents $3,346 or 0.3% increase than the approved FY20 budget. The increase is primarily related to increases in contractual salaries offset by a decrease in transportation related expenses.

4) Depreciation

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.

Depreciation expense of $1,267,998, representing 5.4% of the proposed operating budget and is budgeted to decrease by 25.3%, which is driven by being below budget in actual capital spend in the last view years. 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.

5) 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 Hydropower Credit. 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.

# Mansfield Municipal Electric Department
# Operating Budget Fiscal Year 2021

Discounts are considered an operating expense on the Income Statement. MMED estimates discounts and other expenses of $1,472,733 or 6.3% of FY21 budgeted operating expenses.

**PILOT (Impacting Surplus):**

| *FY21 MMED PILOT* | |
|---|---|
| FY19 MMED Net Book Value(GAAP) | $34,492,119 |
| times FY20 Comm Tax Rate | $21.60 |
| **Total rounded up to nearest $** | $745,029.77 |

| *FY20 MMED PILOT* | |
|---|---|
| FY18 MMED Net Book Value | $34,220,995 |
| times FY19 Comm Tax Rate | $20.44 |
| **Total rounded up to nearest $** | $699,477.14 |

| *Change* | |
|---|---|
| Net BV | $271,124.00 |
| Rate | $1 |
| $ increase Pilot | $45,552.63 |
| | 6.51% |

# Mansfield Municipal Electric Department
# Operating Budget Fiscal Year 2021

## IV. MMED Projected Net Income:

Based on projected revenues and anticipated operating expenses, MMED forecasts a FY21 Net Income of $1,810,073 under the new rate structure. This represents a 2.93% rate of return. Shown below is the trending of Net Income since FY14.

**Net Income FY15 – FY21B**

| *Fiscal year* | *Net Income* |
|---|---|
| ***FY 15*** | $1,766,072 |
| ***FY 16*** | $1,234,584 |
| ***FY17*** | $1,075,477 |
| ***FY18*** | $701,451 |
| ***FY19*** | $193,332 |
| ***FY20 Budget*** | $3,128,156 |
| ***FY21 Budget*** | $1,210,060 |

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. Operating cash has not decreased due to lower than budgeted capital improvements

Net Income in the FY21 budget is $1,918,096 lower than the FY20 Net Income budget. The projected decrease in kWh and increasing labor costs offset by decreased power expenses and depreciation are the primary drivers.

MMED is currently in a strong operating cash position. Capital improvement program will require cash resources in order to fund the capital improvement 5 year plan. MMED will not need to engage in borrowing as Operating Cash is sufficient to cover planned capital improvements.

## V. MMED Budget Assumptions & Risks

Key assumptions used when compiling the FY21 capital and operating budgets are:

1) Risks: Due to COVID-19 pandemic there are unknown variables that may impact results
    a. Decrease in Load Shape
    b. Decline in Collection Trends
    c. New Regulatory Requirements

2) Labor rates used for this budget are based on actual current salary information for FY21.

3) The cost of benefits was based on estimated annual benefit costs for employees.

4) Base electric rates are assumed in this budget to be same as FY20.

5) Depreciation expense is based on net plant levels at 12/31/2019. A regulatory accounting method of a 33 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.

8) Non-Power operating costs are budgeted evenly for each month during FY21, 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 FY21 and is consistent with the long term goals established by the Light Commission.