

# MUSCATINE POWER AND WATER | 2019 ANNUAL REPORT



**Powering  
Muscatine**

**Commitment  
Investment  
Pride**

# A Utility worth being proud of



In April 2019, I had the distinct honor of becoming the General Manager of Muscatine Power & Water (MPW). Having served MPW for nearly 17 years — and now having the perspective of seeing our operation from the GM role — I have a tremendous amount of pride for this great Utility. MPW has a long and rich history of serving the Muscatine community. I continue to be humbled in my attempt to fill the shoes of the great leaders that came before me, including my predecessor, Sal LoBianco, who led MPW for 10 successful years.

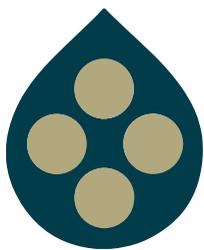
This Report highlights some of 2019's many accomplishments, demonstrating our continued commitment to serving Muscatine and reinforcing the reasons why all customer-owners should share in my feeling of pride in this Utility.

## Your Reliable Neighbor

Reliability of essential utility services remains one of our top priorities and I'm happy to say MPW continues to perform very well in this area. For many years, MPW has been designated as a **Diamond Level Reliable Public Power Provider (RP3)** by the American Public Power Association (APPA) — their highest electric service reliability award. Based on actual customer outage data, RP3 confirms Muscatine customers experience fewer and shorter outages than most of the nation as a result of our comprehensive approach to system design and outage response.



We continue to push the limits of outage response improvement. We implemented a new tool utilizing available data from our new Fiber-to-the-Home (FTTH) infrastructure which helps us pinpoint electrical outages and minimizes response times for our lineworkers. Efforts like this will help ensure that your service reliability will remain one of the best in the nation.



**WE WILL** COMPETITIVELY MEET THE NEEDS AND EXPECTATIONS **OF OUR CUSTOMERS**  
WITH AN **ENVIRONMENTALLY RESPONSIBLE AND UNIQUE MIX OF SERVICES FOR THE DIRECT BENEFIT OF OUR COMMUNITY**

## FTTH Project gets back on track

MPW's staff worked relentlessly in 2019 to resolve issues with the FTTH project impacting its progress. By working collaboratively and candidly with our primary contractor, AEG, several opportunities were identified for improvement and agreements were put in place to help get construction activities back on track.

I am very pleased to say that our teams made substantial progress over the second half of 2019, raising customer conversions to the new fiber system from just under 25% in January to over 53% by year's end. Staff from both MPW and AEG will take advantage of the winter months continuing customer installs and working diligently to develop construction strategies to allow crews to hit the ground running in the spring of 2020.

## Adapting to changing customer needs

Even with a nearly 120 year history of operation, MPW is never content resting on its laurels. Staff continues to evaluate changing industry landscapes in all three utilities while adapting to customer needs. MPW's proactive efforts in offering energy efficiency, distributed generation, renewable energy, and environmental initiatives led to yet another recognition by APPA — **Smart Energy Provider**.



I was especially proud of the way the entire Muscatine community supported our effort in the Governor's "It's In the Water" campaign. Strong community participation helped us win the contest and secure a custom water tower design from artist — and Muscatine native — Laura Palmer.



This project is a notable milestone in MPW's history and a unique story behind the new water tower design. Not to mention, it will save our customer-owners around \$25,000.

Also in 2019, we opened our completely remodeled customer service lobby. The lobby was originally designed for a very different set of customer services before our Communications Utility existed. The new design is brighter, more open, more functional for our customers and provides a



safer environment for staff during emergencies. I'm pleased with how well it turned out, but even more proud of how well MPW staff conducted business without lowering the level of customer service during construction and transition.

## Looking forward to an exciting 2020

While 2019's great accomplishments make me proud, this next year is shaping up to be even more exciting. There are big plans for many projects and initiatives that will continue to enhance our service to the Muscatine community. We anxiously anticipate the successful completion of the FTTH project, with all customers benefiting from faster, more reliable internet service, an enhanced TV/Video product, and phone service.

We'll see the refurbishment of our water tower, including the new custom design. We'll be initiating design and possibly begin construction on a new 161,000 volt transmission line, to strengthen system reliability. We'll also continue our partnership with the City of Muscatine in support of their many community improvement projects.

These are lofty goals, but I believe in our talented and dedicated staff of utility experts. We're your neighbors, friends, and family members... standing by to serve our community's needs. I am truly proud of this great utility and I'm confident that our ongoing efforts will also make our customer-owners very proud to have MPW serving them into the future.

Sincerely,

Gage Huston, General Manager

**A Note on COVID-19:** As this Report is prepared, we're in the midst of responding to the novel coronavirus outbreak. Staff has been working tirelessly to modify operations to protect our customers and employees from the spread, while maintaining a firm focus on continued reliable operation of our essential utility services. Knowing many are impacted by this crisis, we continue to develop programs and policies to support you during these unprecedented times. I've seen the Muscatine community pull together during times of crisis and I'm confident this will be no different. We'll get through this together and this Utility will be there to help make it happen.

# Community Ownership = Local Control

## Your Voice. Your Utility.

Muscatine Power and Water is governed by a five-member Board of Trustees appointed by the Muscatine City Council. The Board provides oversight and policy direction for the Utility.

The Board of Trustees is uniquely comprised of leaders from diverse backgrounds who have years of experience in major financial, industrial, philanthropic and health companies, both public and private. This significant insight enables the Board of Trustees to make informed decisions and act quickly when opportunities arise.

### Board of Trustees



**Tracy McGinnis**  
CHAIR  
CBI Bank & Trust



**Steven Bradford**  
VICE CHAIR  
HNI Corporation



**Susan Eversmeyer**  
TRUSTEE  
River Rehabilitation



**Kevin Fields**  
TRUSTEE  
Kent Corporation



**Keith Porter**  
TRUSTEE  
Stanley Center for  
Peace & Security

We are focused on local impact. Through dedicated leadership, industry expertise and focus on local priorities, MPW has been able to demonstrate the benefits of having a reliable, municipal-owned provider of utility services for over 100 years.

### Senior Leadership Team



**Erika Cox**  
CUSTOMER &  
TECHNOLOGY EXPERIENCE



**Brandy Olson**  
LEGAL, REGULATORY  
AND PEOPLE SERVICES



**Ryan Streck**  
UTILITY  
SERVICE DELIVERY



**Doug White**  
POWER  
PRODUCTION AND SUPPLY



**Brad Spratt**  
INTERIM FINANCE AND  
ADMINISTRATIVE SERVICES

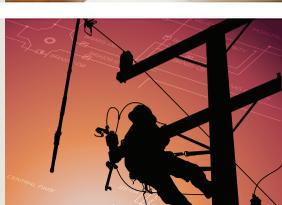
The senior leadership team members are tasked to not only serve the community, but also to foster active partnerships and collaboration with other organizations. Demonstrating teamwork, accountability, excellence and pride, our leaders have the vision, talent and skill to guide the strategic direction of the organization and inspire others to follow their lead.

# Reliability is our promise

## Keeping customers connected

Muscatine Power and Water is committed to providing reliable electric, water and communications services to our customer-owners. MPW has been designated a Diamond Level Reliable Public Power Provider (RP3®) for the last 6 years by the American Public Power Association for demonstrating excellence in reliability, safety, workforce development and system improvement.

While RP3 specifically recognizes proficiency among public power utilities, MPW embraces its principles throughout, practicing a utility-wide commitment to safe and reliable delivery of all services and system improvements along with responsive customer service and relentless cost-containment for the benefit of our customer-owners.

<p><b>99.994%</b> TIME POWER AVAILABLE TO CUSTOMERS</p>		<p>MPW's customers enjoyed near perfect electric system reliability in 2019 with system availability 99.994% of the time. <i>- ASAI (Average Service Availability Index)</i></p>
<p><b>.71 TIMES</b> AVERAGE NUMBER OF OUTAGES PER YEAR</p>		<p>The average MPW electric customer experienced fewer than one (.71) electrical outage in 2019. <i>- SAIFI (System Average Interruption Frequency Index)</i></p>
<p><b>38.52 MIN</b> AVERAGE POWER OUTAGE DURATION</p>		<p>While MPW system outages are rare, they are also brief, with the average duration lasting just under 39 minutes. <i>- CAIDI (Customer Average Interruption Duration Index)</i></p>

## Investing in our commitment to reliability

Providing reliable, low-cost utility services is a tremendous responsibility, which our team members take seriously. It drives us to be proactive so we continually reinvest in infrastructure to ensure the integrity and stability of power, water and communications services. We're determined to stay ahead of customer demand by constantly evaluating future needs. Tomorrow's industrial, commercial and residential growth are supported by capital dollars invested today. 2019 capital improvements include:



**ELECTRIC:**  
**Oregon Street Transformer #2 Rebuilt** — Built in the '70s, transformer #2 was at its end of life. The rebuild required its removal and transport to a facility which replaced barrier boards and its load tap changer.  
*Total project investment: \$551,400. 2019 capital investment: \$294,000. Status: Complete.*

**Oregon Substation Breaker Replaced** — Serving MPW's largest electric load, this project was a key priority. Aging equipment, breakers and isolation switches were replaced to help guarantee reliability.  
*Total project investment: \$238,000. 2019 capital investment: \$154,300. Status: Complete.*

**Mississippi Drive Corridor Phase 1 —**

*As part of a multi-year City of Muscatine project, overhead transmission and distribution lines along the project corridor are to be placed underground. The first phase addressed work from the Beckey Bridge to Broadway Street.*

**Total project investment: \$5.9M.**  
**2019 capital investment: \$593,400.**  
**Status: In process.**



*After distribution and transmission lines are moved underground, poles will be removed for unobstructed views.*



**161kV Transmission Line 106 Project —** *Engineers completed preliminary design of an autotransformer for a new Muscatine switching station and a new northern route 161kV transmission line. Line 106 will further enhance MPW's reliability by adding northern access to the power grid. Design approved.*

**Total project investment: \$11.8M.**  
**2019 capital investment: \$167,800.**  
**Status: In process.**

# 10.3B

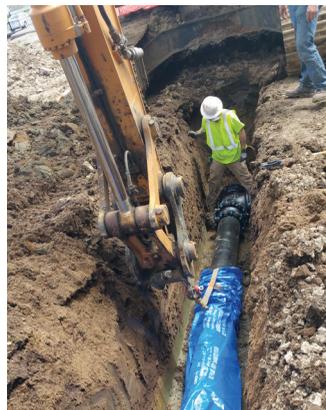
GALLONS OF WATER DELIVERED

From your kitchen sink to large industrial processes, MPW water has been plentiful, reliable and great-tasting for over 120 years. At the rate of 28 million gallons per day, 2019's total was 10.3 billion gallons.

**WATER:**

**Grandview Avenue Water Treatment Plant Expansion —**  
*This project accommodates the additional raw water from the new well field (2018) and included the expansion of chlorine gas storage, a new feed system, an unloading dock, expansion of dry chemical storage, and an additional phosphate mixing tank.*

**Total project investment: \$1.2M.**  
**2019 capital investment: \$212,600.**  
**Status: Complete.**



**West Hill Sewer Separation Project —** *This multi-year collaboration with the City of Muscatine provides us opportunity to evaluate and replace as needed, aging valves, hydrants and water mains, while the streets are excavated for sewer work. Lead or galvanized service lines are also replaced as needed.*

**Total project investment: \$1.3M.**  
**2019 capital investment: \$474,000.**  
**Status: In process.**

**3,805 FEET**  
WATER MAIN REPLACED



To reduce the incidence of breaks in aging water infrastructure, MPW annually targets sections of the system for water main replacements.

**Water Valve Replacement** — Several strategic valve replacements were made in 2019. Our ongoing valve exercising program provides valuable information about water system health. The data helps identify large and small valves in need of replacement before they fail.

**2019 capital investment: \$185,300.**  
**Status: Ongoing**



Regular testing and “exercising” of water main valves helps us identify problems before they happen.

**99.951%**  
TIME INTERNET AVAILABLE TO CUSTOMERS



MachLink customers enjoyed near perfect Internet connectivity in 2019 with system availability 99.951% of the time. At 99.722%, the TV system was similarly reliable.



Many hands are making fiber to the home a reality.

**COMMUNICATIONS:**

Because telecom services, especially internet, are so essential to business and residential customers, maintaining and improving their reliability are top priorities, along with ensuring we are prepared and have the capacity to meet growing needs. These projects are the result of proactive planning.



**Fiber to the Home (FTTH)** — In the third year of the planned 4-year project, customers converted to the all-fiber system grew from around 2,600 at the end of 2018 to nearly 5,700 a year later; with approximately 4,900 remaining.

**Total project investment: \$19.1M.**  
**2019 capital investment: \$4.7M.**  
**Status: In process.**

**SD to HD conversion** — With the extra capacity provided by upgrading our video delivery to IP, technicians upgraded the signal delivery for 18 channels from standard definition to high definition, improving the experience for our video customers.

**2019 capital investment: \$110,504.**  
**Status: Complete.**





Above - the new NOC's concrete shell. Below - GMCCI Ambassadors tour the NOC after ribbon cutting.



### Structural Strengthening of Network Operations Center (NOC) —

The expanded NOC is completely encased in a concrete shell to protect it from weather-related disasters. It boasts resistance to up to 250 mph winds, has a new uninterruptible power supply and additional AC units to keep hot equipment cool.

**Total project investment: \$2M.**  
**Status: Complete.**

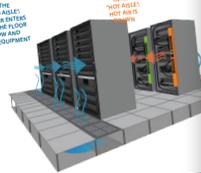
**NETWORK OPERATIONS CENTER RELIABILITY PROJECT**

The overall size of the NOC was expanded for future Communications equipment needs



**NETWORK OPERATIONS CENTER RELIABILITY PROJECT**

**NOCs Get Hot!**  
Air Conditioning capacity was Increased. 2 new units were added and were placed within the new reinforced structure



**NETWORK OPERATIONS CENTER RELIABILITY PROJECT**

The new Tornado Resistant concrete structures provide protection for up to **250 mph Winds**

Wind Speed (mph)	EF Rating	Damage Description
45-85	EF 0	Roof surface off some roofs, minor damage to gutters or siding
86-110	EF 1	Roof severely damaged, mobile homes operational or badly damaged, loss of exterior doors, windows and other glass panes
111-135	EF 2	Roofs torn off well-constructed houses, thousands of trees, houses, utility mobile homes completely destroyed
136-165	EF 3	Extensive removal of well-constructed houses, destruction of better houses, utility mobile homes destroyed
166-200	EF 4	Well-constructed houses and mobile homes completely destroyed
200+	EF 5	Remaining frames blown off, destruction of metal roofs, multiple buildings have significant structural destruction

# 419 MILES

OF FIBER INSTALLED SINCE 2017



The MachLink Network's backbone has been fiber-optic since the '90s. Converting "the last mile" of coax brought the total served by all-fiber to **53%** by 2019's end.

### GENERATION:

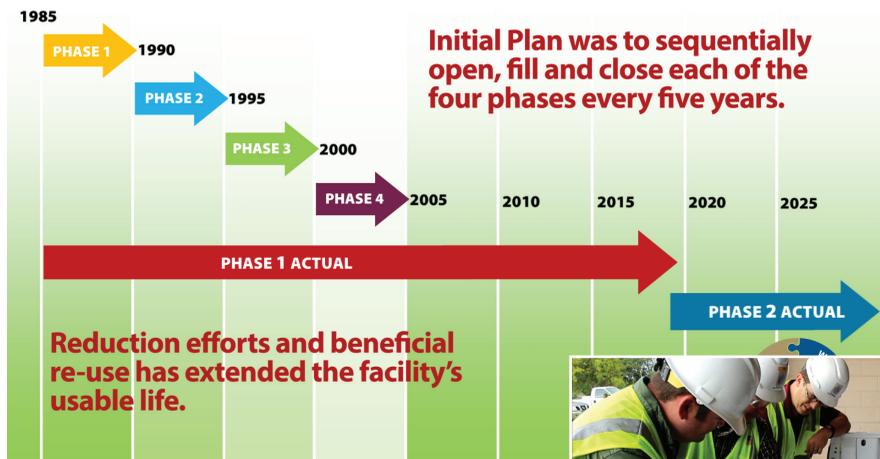
State and federal regulations aside, living in Iowa's Mississippi valley helps us focus on protecting land, water and air to the best of our ability; and MPW has long been a leader in reducing emissions, re-purposing waste and promoting efficiencies in our processes.

### Coal Combustion Residue (CCR) Landfill —

Constructed in 1985, MPW's CCR landfill was expected to be full in 35 years – 2020. In 2019, the first phase of the landfill was covered, decades after its anticipated closure.

Its useful life has been extended through reduction and beneficial use of by-products:

- Gypsum used for wallboard and agricultural soil amendment.
- Fly ash used as a concrete additive.
- Bottom ash used in kilns, shingles and grit blasting media.



This diagram shows how a comprehensive plan for reducing and re-purposing waste can have a significant effect on the local environment.



# Reinvesting resources

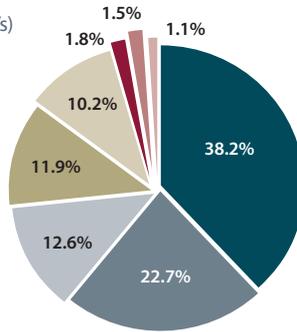
The Utility's net income is used to make system improvements like the ones noted previously in this report.

## Electric:

The Electric Utility earned \$94.8 million in revenue with net income of \$13.5 million.

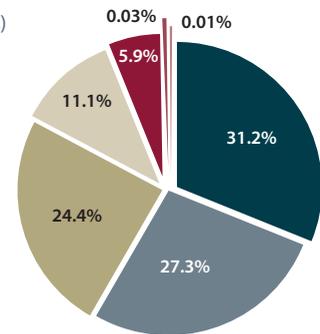
### ELECTRIC - SOURCE OF FUNDS (in 000's)

Industrial	\$36,178.5	38.2%
Wholesale	21,487.1	22.7%
Residential	11,952.0	12.6%
Commercial	11,321.9	11.9%
Steam	9,665.3	10.2%
Water/Communications		
Utilities & Wastewater Plant	1,676.8	1.8%
Investment Income	1,434.1	1.5%
Other	1,071.4	1.1%
<b>Total Inflows</b>	<b>\$94,787.0</b>	<b>100.0%</b>



### ELECTRIC - USES OF FUNDS (in 000's)

Operation	\$27,447.8	31.2%
Purchased Power	24,014.7	27.3%
Production Fuel	21,512.3	24.4%
Maintenance	9,792.2	11.1%
Capital Investments	5,205.3	5.9%
Interest Expense	23.0	0.03%
Emissions Allowance	7.6	0.01%
<b>Total Outflows</b>	<b>\$88,003.0</b>	<b>100.0%</b>

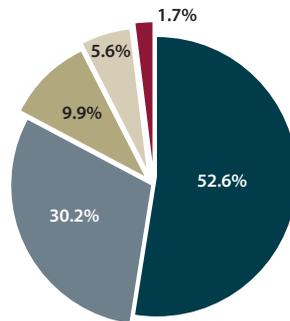


## Water:

The Water Utility earned \$7 million in revenue with net income of \$480 thousand.

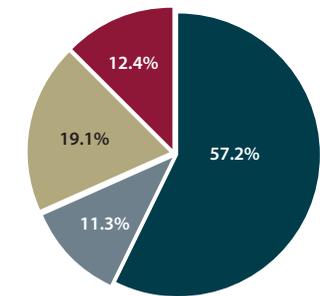
### WATER - SOURCE OF FUNDS (in 000's)

Contract Customers	\$3,714.2	52.6%
Residential	2,130.7	30.2%
Commercial	695.8	9.9%
Power Plant	396.5	5.6%
Investment Income	119.0	1.7%
<b>Total Inflows</b>	<b>\$7,056.1</b>	<b>100%</b>



### WATER - USES OF FUNDS (in 000's)

Operation	\$4,508.8	57.2%
Maintenance	890.7	11.3%
Capital Investment	1,506.4	19.1%
Interest Expense & Debt Payment	981.3	12.4%
<b>Total Outflows</b>	<b>\$7,887.2</b>	<b>100%</b>

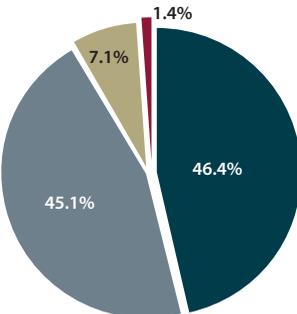


## Communications:

The Communications Utility earned \$14.7 million in revenue with net income of \$2.3 million.

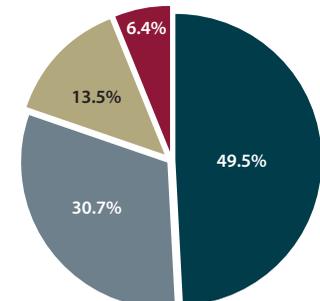
### COMMUNICATIONS - SOURCE OF FUNDS (in 000's)

CATV	\$6,837.6	46.4%
Internet	6,651.6	45.1%
MAN & Phone	1,051.9	7.1%
Investment Income	203.5	1.4%
<b>Total Inflows</b>	<b>\$14,744.6</b>	<b>100%</b>



### COMMUNICATIONS - USES OF FUNDS (in 000's)

Operations	\$9,873.2	49.5%
Capital Investment	6,120.7	30.7%
Interest Expense & Debt Payment	2,690.3	13.5%
Maintenance	1,278.4	6.4%
<b>Total Outflows</b>	<b>\$19,962.7</b>	<b>100.0%</b>

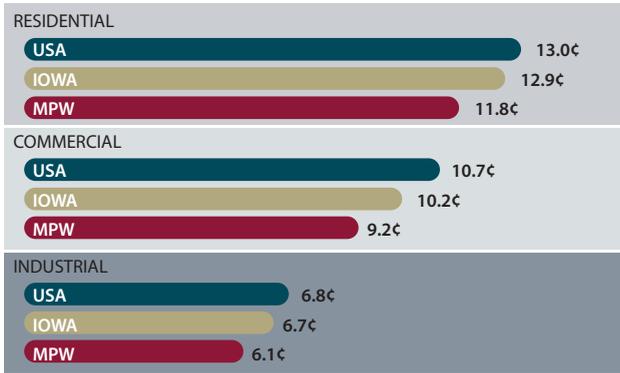


Full audited 2019 financials are available on [mpw.org/AnnualReport](http://mpw.org/AnnualReport)

# While keeping utility rates low

MPW wants to help our customer-owners keep money in their pockets! One way we do that is by providing rates below the national and state averages.

## Compare electric rate per kWh



Annual Electric Power Industry 2019 EIA 861 Report

## Compare water rate per CCF



On average, Muscatine customers each save \$400 per year

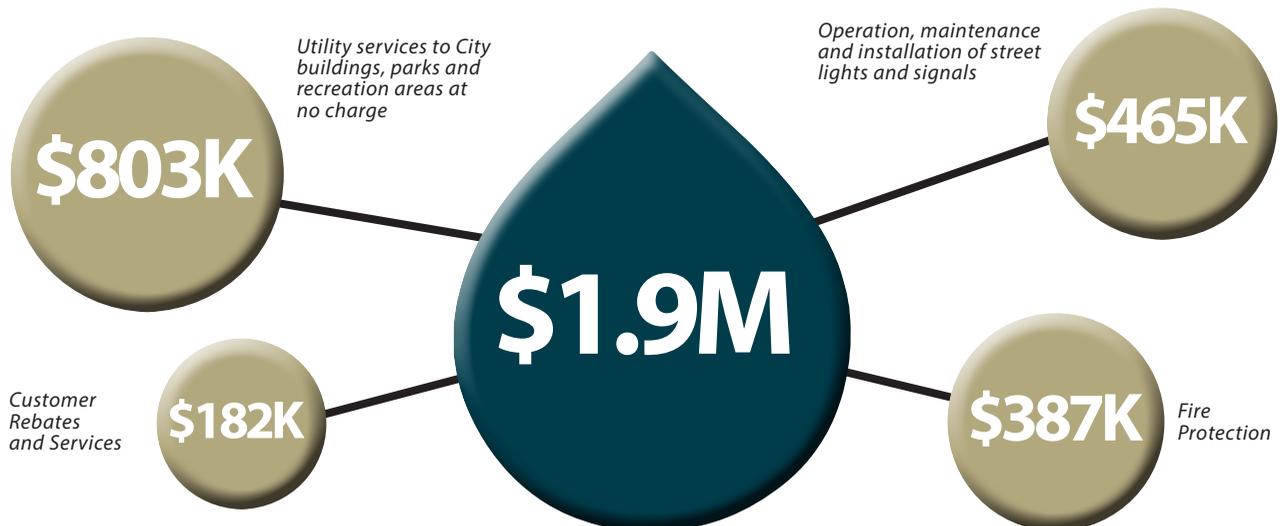
# \$4.4M

COMMUNITY RATE SAVINGS

In Muscatine, great reliability does not cost more! In fact, MPW customers saved \$4.4 million dollars in 2019 compared to other cities in Iowa and national averages.

Plus a direct benefit to the Muscatine Community of \$1.9M

Besides the \$4.4 million cost-benefit citizens receive due to MPW's lower than state/national average rates, the Utility directly provides services to the city's public buildings and spaces that would otherwise be paid by taxes.



# Connecting to people

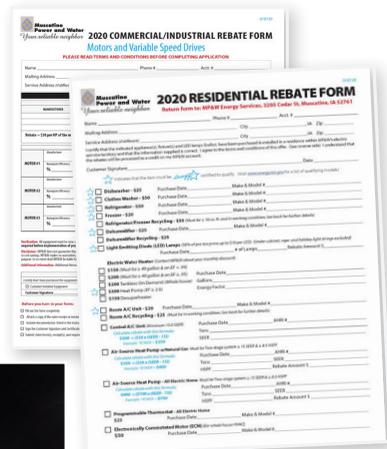
MPW is indispensable for the economic vitality of our community. As a municipal utility, we are proud to work side-by-side with other community organizations to make Muscatine a great place to live, work and play.

Our employees are vested in their hometown. They give their time and talents to not-for-profit organizations and community events. You'll find MPW staff at school and sporting events, at your church, and wherever people gather.

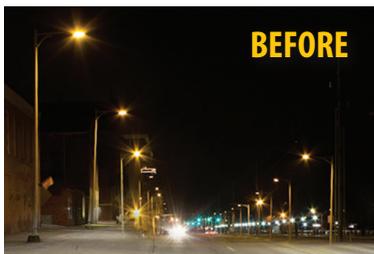
- MPW 5k Run/Walk
- Over The Edge
- Community Block Party
- Almost Friday Fest
- Holiday Decorations
- 4th of July Parade
- Annual School Visits
- Power Plant Tours
- Science Fair
- Farmers Market
- Holiday Stroll
- United Way Day of Caring
- Home & Outdoor Show



MPW's history is Muscatine's history and visitors to the National Pearl Button Museum can get a detailed timeline of the Utility's services and accomplishments.



We completed the multi-year conversion of city streetlights to high efficiency, low maintenance, brighter LEDs in 2019.



MPW returned **\$69,271** to our customers in 2019 in the form of bill credits based on their purchases of energy efficient devices.



In 2019, the 1st year of the program (formerly known as We Offset), MPW retired 22,877 Renewable Energy Certificates (RECs) on behalf of customers, equivalent to almost 23 million kilowatt-hours (kWh) — 22,877,000 kWh!

# 29 YEARS

2019 RETIREES' AVERAGE LENGTH OF SERVICE



In a world where an employee's longevity is often measured in months and years, MPW routinely counts tenure in decades. Many team members spend their entire careers here, some in excess of 40 years.

## Working together

What does it take to make an organization a great place to work? According to Fortune Magazine, employees must trust and enjoy the people they work with and have pride in the work they do. MP&W's employment statistics support Fortune's findings, indicating a well trained, proud and tight-knit workforce.



*Pardon us if our hometown pride shows — at local events and in our daily work on behalf of our neighbors*

### Average years of service, USA

*Year in and year out, an MPW employee is 3 times more likely to stay with the company than the average American.*

NATIONAL

4.2 YEARS

MUSCATINE POWER AND WATER

13.4 YEARS

## MPW CORE VALUES

**BE CUSTOMER-DRIVEN**

CUSTOMER SERVICE

**BE EFFICIENT & STABLE**

FINANCIAL STABILITY

**BE ABLE & ACCOUNTABLE**

EMPLOYEES

**BE RELIABLE & PREPARED**

RELIABILITY

**BE PROACTIVE & ENGAGED**

ENVIRONMENTAL STEWARDSHIP

**BE COMMITTED TO SAFETY**

SAFETY



MUSCATINE POWER AND WATER  
3205 CEDAR STREET  
MUSCATINE, IA 52761

POSTAL  
INDICIA



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**Powering  
Muscatine** | Commitment  
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