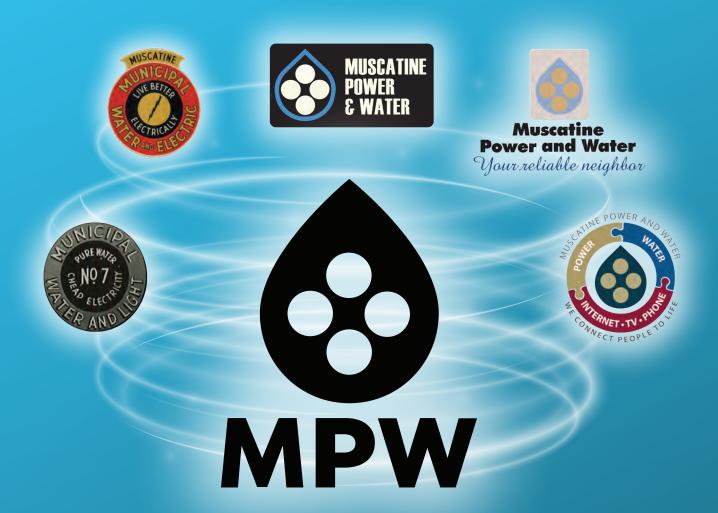


2021 ANNUAL REPORT



Over 55 years ago, customers of Muscatine Municipal Water and Electric got their first look at our now familiar water drop logo and the name, Muscatine Power and Water. This past year, the community has seen a subtle change in that logo on our new website, in social media, on buildings, and vehicles.

While we'll certainly be remembered as 'Muscatine Power and Water' or even more casually, 'Power and Water', we are purposefully transitioning our name to the initials, 'MPW' — maintaining a link to our name while being more inclusive of all three utilities.

The updated logo retains the well-known 'drop and dots'. The drop represents our original 1900 Water Utility and initially, the four dots inside represented the cross-section of a Hendrix cable — an electrical cable designed for high reliability.

Today, after over 120+ years and the expansion of our service offerings, we like to think of the four dots as representing the solidarity between our customers and our three utilities — Water, Electric and Communications.

It represents and identifies the dedicated and committed men and women who have served their neighbors as a provider of reliable, affordable, flexible and sustainable utility services for generations. As such, the MPW brand evokes trust, stability and pride. The new logo and word mark are the shorthand that call those qualities to mind.

MPW is Muscatine — founded by citizens and operated by citizens, serving the community for over a century.

Positioned for progress:

A message from our General Manager



Gage Huston
GENERAL MANAGER

From the moment the first gallon of water was pumped in 1900, Muscatine Power and Water (MPW) has worked to provide outstanding utility services — raising the standard of living for our community and attracting business and industry. Our organization has been at the forefront of community progress since the beginning and it continues today.

MPW has a history of investing sensibly in new technologies and infrastructure to drive change; creating an environment in which business and industry are competitive in worldwide markets while keeping rates low for residents. This enterprising spirit has made MPW the backbone of the Muscatine community.

Building on that foundation, MPW is charting a course forward and positioning the community for progress. While water, electricity and communication services may not be top-of-mind for most of you, they are the reason our team members get out of bed

each morning. Our community depends on MPW to provide essential services — and our dedicated staff takes that responsibility seriously.

Guided by our Strategic Plan, MPW is embarking on new challenges. Over the last year, we have been turning ideas into reality — driving transformation to shape the future of the Muscatine community.

One of the most transformative projects MPW has taken on is the **Powering the Future** initiative. This multi-year project — the result of years of research and collaboration with some of the country's foremost industry experts — will fundamentally change how power is generated for our community.

Backed by sound data and support of stakeholders, community partners and the Board of Trustees, we will expand our renewable energy portfolio and substantially reduce carbon emissions while maintaining the dependability and low rates our customers rely on. These are essential steps on the path to becoming the utility of the future.

To ensure reliability in light of changes to generation, we partnered with Central lowa Power Cooperative (CIPCO) in the construction of a new 161kV transmission line (**Line 106**) and substation. Once completed, this asset will provide redundancy and voltage support for industrial processes, as well as enhance reliability for residential neighborhoods, healthcare operations and academic institutions — crucial for continued progress in Muscatine and beyond. This new line will also make our electric system more resilient to natural disasters and other severe weather events.

MPW completed the **Fiber to the Home** (FTTH) project in 2021, giving Muscatine an edge in commercial development and quality of life, while providing the internet speeds residents now depend on — especially in a time of expanded "work from home" requirements. Our fiber infrastructure — the most advanced communications technology available — allows every premise to connect to the world at Gigabit speeds now and provide even higher bandwidth connections for large enterprise customers who do business globally.

Now that internet connectivity is as important as keeping the lights on, MPW's fiber investment will keep our community reliably connected to friends, family and colleagues around the world. That investment is paying off – in 2021, our customers saw the highest network reliability rates in the Communications Utility's history.



And, thanks to grants awarded by the state's Empower Rural Iowa Broadband Grant Program, the Utility's fiber network will be expanding to serve even more of the Muscatine community. Expansions help spread out fixed costs for all of our customers, which serves to keep rates low, all while broadening access to this critical service. All told, about 400 more Muscatine area homes and businesses will be served by MPW in the coming years for their internet, TV and phone needs.

As electric vehicles (EV) become more commonplace, the Utility continued to invest in infrastructure and programs. Our EV stakeholders group sought to promote EV adoption through an expansion of MPW's rebate program, and identified locations for up to 3 additional **public EV charging stations** to be operational in early 2022.

MPW was recognized in 2021 for its commitment to excellence, earning four industry awards and was designated as a Smart Energy Provider (SEP) from the American Public Power Association (APPA). These awards underscore team members' dedication to serve the local community while adhering to industry best practices.

In the midst of the ongoing pandemic, the spirit of altruism was evident as public and private partners worked together to keep their communities going and families whole. In partnership with state and local community outreach organizations, MPW was able to facilitate utility assistance to ensure homes were warm. We were also able to help students and families stay connected through participation in an FCC program to subsidize internet access for those in need.

If we've learned nothing else the past few years, change is certain. The utility industry is experiencing a revolution in technology and philosophy. Transformational innovations will redefine how power is generated and how customer needs are met. MPW will not waver during these changing times. We are excited about the challenges ahead of us and will meet the future head-on, while delivering on our commitment to the Muscatine community.

As you continue reading this **Annual Report**, note that what we accomplished in 2021 is truly remarkable. Our Strategic Plan set our direction. We've made great strides this past year and are poised to achieve even more for our customers. These projects and initiatives are shaping MPW's future; re-framing the work we do to deliver value for our customers.

We are **Positioned for Progress** as we move into 2022. I am confident in the talent and dedication that our team members bring to the job each day and I am honored to be a part of the team that is leading MPW into tomorrow. As



Progress takes leadership

Experienced community leaders provide expert guidance

Policy direction and oversight for the Utility is in the capable hands of a five-member Board of Trustees, appointed by the Muscatine City Council.

Representing customers, each of these local individuals brings perspective as diverse as their backgrounds and offer wise counsel to MPW staff.

Insightful and decisive, the Board advises, monitors performance and sets direction for important Utility initiatives.

Board of Trustees



Steven Bradford CHAIR HNI CORPORATION



Kevin Fields VICE CHAIR KENT CORPORATION



Tracy McGinnis



Keith Porter TRUSTEE STANLEY CENTER FOR PEACE & SECURITY



Susan Eversmeyer TRUSTEE RIVER REHABILITATION

Senior Leadership Team



Doug White PRODUCTION AND SUPPLY



Erika Cox CUSTOMER & FINANCE AND TECHNOLOGY EXPERIENCE ADMINISTRATIVE SERVICES



Mark Roberts



Brandy Olson LEGAL, REGULATORY AND PEOPLE SERVICES



Ryan Streck SERVICE DELIVERY

The Trustees rely on an equally diverse executive leadership group to implement policy and oversee day-to-day operations. Their extensive experience in multiple disciplines within the industry help them focus their management teams on local priorities so the entire organization is positioned to deliver world-class reliability, control costs responsibly, and deliver responsive customer service.

For over 120 years, MPW has embraced its role as a non-profit, public utility, ensuring customers are well-served and that we are accountable only to them.

Vision defined:

Executing the plan

We began 2021 with a well-defined set of strategies, objectives and initiatives to set the Utility's direction for the following 3 to 5 years. That **Strategic Plan** served as a catalyst across departments as individuals and teams focused efforts on delivering results for customers and positioning MPW for continued progress.











Through its detail, the plan is a roadmap to living and achieving our mission and providing real value to our community today and into the future. These are exciting and challenging times for the Utility and for us all. It is through strategic thinking and thoughtful execution that we will be prepared for what the future brings while delivering daily on our promises to be reliable, affordable and responsible to our customers,

This is a report on the progress we've made in 2021 toward that end.

Strategy 1: Develop Great Employees & Leaders

Strategy 1 seeks to establish a culture that develops leaders at all levels and leverages tools and programs to make them most effective. Specifically, **Objective 1.2** calls on team members to build operational excellence into all aspects of the Utility.

In 2021, MPW earned several industry recognitions for excellence and a special designation from the American Public Power Association (APPA).

Last March, we were awarded the APPA **Safety Award of Excellence** for 2020, placing 2nd among utilities our size with similar worker hours of exposure.

For the second time, MPW received APPA's **Smart Energy Provider** (SEP) designation for best practices, commitment to

and proficiency in energy efficiency, distributed generation, renewable energy, and environmental initiatives.

Finally, MPW received three **Public Power Communications** awards: an Award of Excellence for our new website, and Awards of Merit for both our Annual Report and a Powering the Future video.

Objective 1.3 urges staff to leverage advancements in technology to improve processes and become more information-driven. Teams have made data more accessible to more users by converting many complex reports into simplified Power BI dashboards.

Working smarter, not harder is easy to do with MPW's in-house **Geographic Information System** (GIS)



department. Throughout 2021, GIS built new tools for MPW staff to be more effective in the field, including highly accurate maps, updated in real time. These tools help prevent mistakes and keep crews well-informed.

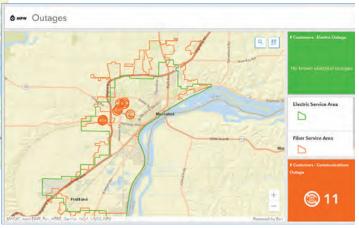
New public-facing maps were also released, allowing customers to see communications and power outages, as well as fire hydrant flushing activity in their neighborhoods.



Field crews once carried dozens of printed maps in their vehicles. Those days are over.



Each spring and fall, customers can track hydrant flushing progress on mpw.org.



Electric and Communications outages are rare, but this public-facing map pinpoints issues quickly.

Strategy 2:

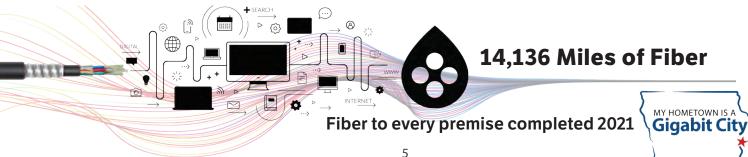
Give Customers Reasons to Love MPW

With the belief that every experience is an opportunity to delight a customer, MPW staff is encouraged to take the initiative to add value whenever possible.

For example, Objective 2.1, which seeks to provide an interactive and forward-thinking customer experience, drove the design and launch of the new **mpw.org** website in June.

All year long, a cross-functional team evaluated possible replacements for our **Customer Information System** (CIS) and recommended the utility and telecom-geared iVue Connect solution by National Information Solutions Cooperative (NISC). It will provide numerous process efficiencies based on utility best practices, customer-friendly features, and new self-service options; including the SmartHub app. The new CIS is expected to launch by the end of 2022.

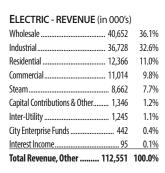
Mission accomplished! MPW reached another milestone in the Fiber to the Home (FTTH) project as the final circuit serving a legacy system customer was cut in 2021. The FTTH project keeps Muscatine telecommunications state-of-the-art for decades to come!

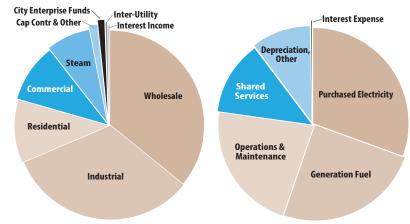


Positioned to reinvest...

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

Electric: The Electric Utility had a net income of \$1.2M and capital expenditures of \$10.4M

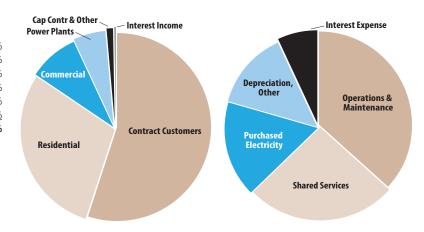




ELECTRIC - EXPENSES (in 000%	s)
Purchased Electricity 34,027	30.6%
Generation Fuel 27,766	24.9%
Operations & Maintenance 24,424	21.9%
Shared Services 14,025	12.6%
Depreciation, Other 11,131	10.0%
Interest Expense4	0.0%
Total Expense 111,375	100.0%

Water: The Water Utility had a net income of \$1.1M and capital expenditures of \$1.3M

Total Revenue, Other 7.890 1	100.0%
Interest Income2	0.0%
Capital Contributions & Other92	1.2%
Power Plants 431	5.5%
Commercial 695	8.8%
Residential 2,327	29.5%
Contract Customers 4,344	55.1%
WATER - REVENUE (in 000's)	



WATER - EXPENSES (in 000's)				
Operations & Maintenance 2,497	36.9%			
Shared Services 1,764	26.1%			
Purchased Electricity 1,128	16.7%			
Depreciation, Other 916	13.5%			
Interest Expense	6.8%			
Total Expense 6,763	100.0%			

COMMUNICATIONS -

Programming 4,505

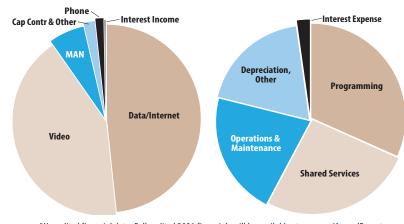
Depreciation, Other...... 2,667

Operations & Maintenance............. 3,008 21.2%

Total Expense 14,196 100.0%

EXPENSES (in 000's)

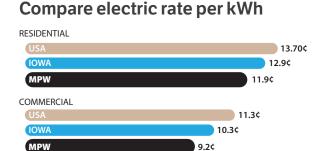
Communications: The Communications Utility had a net income of \$1.5M and capital expenditures of \$0.5M



*Unaudited financial data.	Full audited 2021	financials will be	available at mi	pw.ora/AnnualReport
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and serve ratepayers responsibly

Municipal utilities like MPW are not driven by profit which results in lower rates than investor-owned utilities elsewhere. Keeping rates below the national and state averages is a priority for us..



6.8¢

USA and lowa rates per Annual Electric Power Industry 2021 EIA 861 Report (www.eia.gov)

Compare water rate per CCF



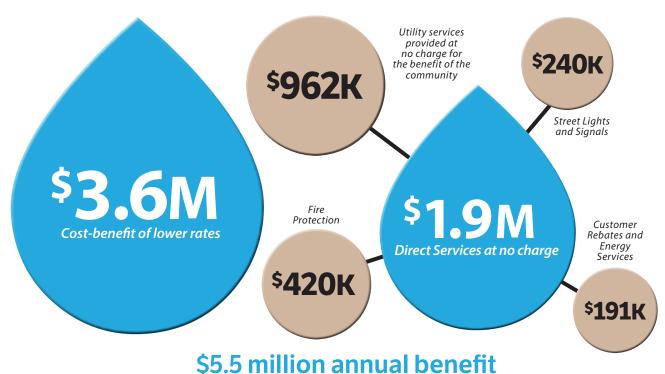


INDUSTRIAL

IOWA

In Muscatine, great reliability does not cost more! When compared to other cities in lowa and national averages, MPW customers saved \$3.6 million dollars in 2021 — that's about \$330 per year/per customer!

Besides the muti-million dollar cost-benefit customers receive, the Utility also directly provides services to the city's public buildings and spaces that would otherwise be paid by taxes.



7

Our rural neighbors benefited from upgrades to MPW's **Fixed Wireless Internet** service. Customer radios and base stations were replaced and reoriented along with an expansion of MPW's fiber backbone infrastructure. These combined improvements increased download speed to 25Mbps, effectively tripling our previously fastest wireless speeds.

MPW was there for customers in need in 2021. Besides our own **Project Share** heating assistance program, the Utility was able to facilitate \$239,400 in Utility Bill Assistance in conjunction with private and public efforts and helped 63 customers get or stay connected by participating in the FCC's Emergency Broadband Benefit Program.

We also made progress on **Objective 2.2** - deliver exceptional outage response, by employing new technologies to pinpoint trouble spots and proactively respond without receiving a single call from a customer. This has allowed

us to dispatch crews quicker for more effective response.

Strategy 3: Invest Responsibly in Reliability

Maintaining our award-winning reliability is no accident. MPW Strategy 3 crosses multiple Utility lines from Power to Water to Communications and keeps all these areas focused on achieving best-in-class performance for customers.

Objective 3.1 - Maintain best-in-class Electric system reliability.

MPW designed and began construction of a new 161kV Transmission Line (**Line 106**) in partnership with CIPCO (Central lowa Power Cooperative). Line 106 will provide a new northern route into the community and positions us for progress by providing transmission redundancy — a critical companion piece to our Powering the Future initiatives. By year-end, construction was in full swing, and the needed transformer was delivered to the new MPW North Substation.

MPW is proud to receive the APPA **Certificate of Excellence in Reliability** award. We are always working to increase our reliability numbers and one key area is in animal protection — protecting animals from electric shock which can create power outages. The statistics show our efforts are working. We continue to examine animal contact events and change the way we build and protect infrastructure.

As mentioned earlier, APPA also recognized MPW with its **Smart Energy Provider** designation for demonstrating a commitment to and proficiency in energy efficiency, distributed generation,



The site of MPW's new North Substation along Highway 38 at 170th Street



Contractors deliver the North Substation's new 161kV/69kV Auto Transformer



Massive steel poles will carry Line 106 between MPW West and North Substations

and environmental initiatives supporting the goal of providing safe, reliable, low-cost, and sustainable electric service.

Objective 3.2 - Maintain best-in-class Water system reliability.

The Utility continued to invest in the water system — not only replacing aged infrastructure, but also improving it. When some main breaks resulted in unplanned closings of Susan Clark Junior High School, the team redesigned the main adding additional valves and replacing a large section of main line. Now, the school can be fed from either direction and with the new main in the immediate area, we look for uninterrupted operation of the school's water system.



Water operators also developed a unique solution to repeated main breaks near the Houser/Fulliam intersection. By installing 300' of main line at the end of West Fulliam, there are now two feeds into the subdivision, which will increase reliability and flow. Previously, a main break could leave multiple customers without water. The timing for this upgrade was great as there are now an additional 63 lots being developed in the affected area.



Strategy 4:

Power the Future

Research by prominent energy experts and our own staff yielded a solid plan that builds on MPW's historic reliability and affordability and adds flexibility and sustainability components.

This multi-year project fundamentally changes how power is generated for our community and positions Muscatine for continued progress well into this century.

Objective 4.1 - Expand renewable portfolio.

MPW moved another step closer toward the inclusion of solar as part of the our proposed power portfolio transition. Muscatine Solar 1, to be constructed on the Utility's Grandview Wellfield location, will support MPW's ambitious sustainability goals.

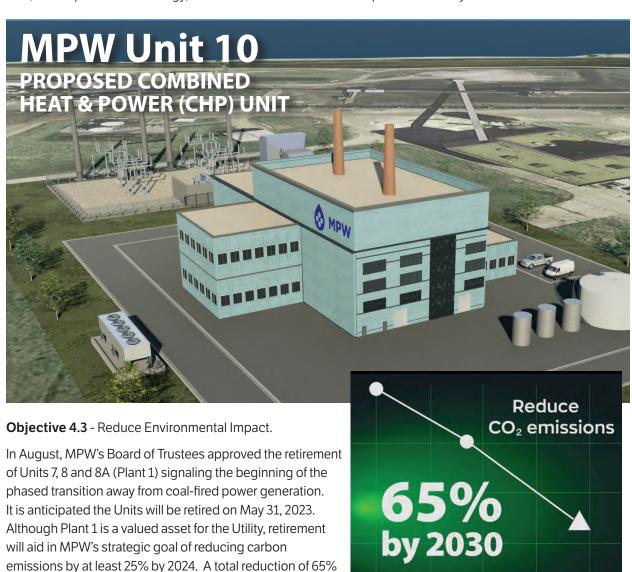
In response to business and industrial customer interest, MPW developed

the Choose Green Muscatine - Business Program to support corporate sustainability goals. The program allows customers to directly purchase renewable energy from MPW's growing renewable energy portfolio, supporting the Utility's generation diversification.



Objective 4.2 - Investigate replacement local resource.

The latest power supply study recommended a phased transition from coal-fired generation to cleaner burning, low-cost natural gas with a new Combined Heat & Power (CHP) unit which maximizes the efficient use of energy while reducing carbon emissions. CHP units, such as the one proposed, are endorsed by the EPA, the Department of Energy, and the lowa Economic Development Authority.



Strategy 5: Grow Our Services

Objective 5.1 - Electrify Muscatine 2.0.

could be realized by the end of the decade if a replacement generation resource for coal-fired Unit 9 is in place by then.

MPW continued to support the adoption of electric vehicles (EV) in 2021. Early Adopter rebates were expanded to 10 and two new public EV chargers will be installed at the Merrill Hotel and Musser Public Library shortly after the new year. Plans for a third new charger are in the works.

Objective 5.3 -

Expand Communications territory to better serve our community.

MPW's communications footprint expanded in 2021 by extending service from Solomon Road to the Rolling Meadows neighborhood. Further expansion to over 200 homes is planned for areas along Highway 22 east with support from the State of lowa's **Empower Rural Iowa Broadband Grant Program**. The Utility also applied for an additional grant to expand fiber services to areas north of the Highway 61 Bypass.



Neighborhoods slated for fiber expansion include these along Highway 22 east and north of the Highway 61 Bypass.



Objective 5.4 - Investigate Water expansion options.

The water department also expanded its service area in 2021 with the inclusion of Fairway Oaks subdivision, located just north of Muscatine. The project was a win-win for both MPW and Fairway Oaks homeowners; the homeowners will have access to high quality water and the Utility increased its customer base. In total, 38 new customers are now enjoying MPW's water service.

Discussions with Louisa County officials began to explore the possibility of supplying water services to the city of Wapello and other communities. The Louisa County

stakeholders expressed a desire to work with MPW because of its positive reputation for reliability, low cost, and great customer service. Currently, MPW and Louisa County stakeholders are investigating costs and design. No proposals have been made at this time.

Working strategically: All hands on deck

With strategies, objectives and initiatives set and a vision clearly defined, the Utility's employee teams did what they do best — take action. Individual goals and work plans mirror the organization's focus and drive their implementation for the benefit of our customers.

An incredible amount of work has been planned, started, or completed in just the first year. With the **Strategic Plan** as our roadmap and with the dedication and support of employees and community members alike, MPW is truly **Positioned for Progress**.

Utility Facts:

Electric		
Power Plant generating capacity:	293 MW	
2021 peak load:	137.5 MW	
Substations:	12	
Transmission and distribution line:	295+ miles	
Number of customers:	11,568	
Utility poles	8,217	

Water	
Length of water pipeline:	157 miles
Average daily production	30.5 M gallons
Fire Hydrants	1,266
Active wells	27
Number of customers:	10,014
Valves:	2,958

Communications		
Length of fiber strands in network:	14,363 mies	
Number of customers	10,785	
Number of fiber-ready homes	12,745	
Splitters/PONs	535	
Splices	2,108	
HelpDesk calls 2021:	44,028	



With a service availability index of 99.998%, MPW customers enjoyed near perfect electric system reliability in 2021

ASAI

Average Service Availability Index

99.998%

% TIME POWER AVAILABLE TO CUSTOMERS



Reliability means fewer power interruptions.

In 2021, it was just **0.147** interruptions per customer!

SAIFI

System Average Interruption Frequency Index

0.147 TIMES

AVERAGE INTERUPTIONS PER CUSTOMER



MPW system outages are rare and brief.

On average, customers were interrupted/outaged for only **8.16** minutes in 2021.

SAIDI

System Average Interruption
Duration Index

8.16_{MIN}

AVERAGE POWER OUTAGE DURATION



With system availability of 99.953%, MPW customers enjoyed near perfect Internet connectivity in 2021.

> Average System Availability

99.953%

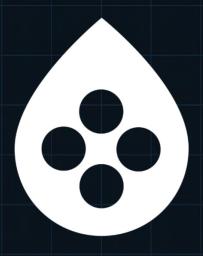
% TIME INTERNET AVAILABLE TO CUSTOMERS

Electric reliability calculated per Institute of Electrical and Electronics Engineers (IEEE) formulas.



11.1B
GALLONS OF WATER ANNUALLY

At the rate of 30.5 million gallons per day, MPW pumped 11.1 billion gallons of water in 2021.



MISSION

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.

CORE VALUES

BE CUSTOMER-DRIVEN
CUSTOMER SERVICE

BE ABLE & ACCOUNTABLE

EMPLOYEES

BE PROACTIVE & ENGAGED

ENVIRONMENTAL STEWARDSHIP

BE EFFICIENT & STABLE

FINANCIAL STABILITY

BE RELIABLE & PREPARED

RELIABILITY

BE COMMITTED TO SAFETY

SAFETY