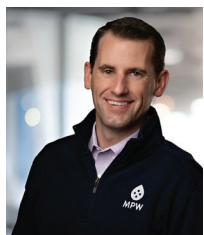


# MPW NEWS

VOLUME 2023 • ISSUE 1

## SPECIAL EDITION: 2022 YEAR IN REVIEW

PREVIEW OF the MPW 2022 ANNUAL REPORT • Look for it this March at [mpw.org/AnnualReport](https://mpw.org/AnnualReport)



**GAGE HUSTON**  
GENERAL MANAGER

2022 was a year of celebration and reflection for Muscatine Power and Water (MPW). Two milestones were celebrated – respectively, the 100th and 25th anniversaries of the electric and communications utilities. Although much has changed over those years, MPW's integrity and unsurpassed dedication to serving our community have not.

The Utility remains a backbone of the Muscatine community with a history of sensible investment in utility infrastructure as well as innovative technologies, along with a laser focus on the needs of customers of all sizes. As a result of this enterprising spirit, MPW has created an environment where low rates and high reliability allow local industries to be competitive in worldwide markets and small businesses to thrive here at home, while positively impacting the cost of living for every resident.

Guided by MPW's strategic plan, nearly 275 team members worked to transform strategies into specific and measurable actions. Like on a chess board, there are many pieces to our plan. It's through the thoughtful, strategic advance of each piece that we have delivered lasting results in 2022 and set the pace for continued progress to

benefit our customers.

A vision was cast back in 1900, when Muscatine Municipal Water Works was formed. Reliable, low-cost utility services was and is our promise. After 122 years of progress and change, that original vision remains clear, and it is the heart of our strategic plan. MPW will continue to be guided by our focus on serving our customers.

Every one of us understands that pledge. We take pride in having developed a workforce dedicated to you. We work every day to earn your trust. Our record of reliability leads the industry, and our rates are below state and national averages. Even as we strategize for the future and for growth, we are anchored in your best interests.

2022 was a year of advancing strategies and delivering results on your behalf. We invite you to read on and learn more about the projects and people who defined another successful year.



## RELIABILITY

Maintaining our award-winning reliability is no accident. MPW's Strategy 3 focuses on reliability. It crosses multiple utility lines — from power to water to communications— and keeps all of us focused on achieving best-in-class performance for our customers.

The electric utility reached a coveted reliability goal with an **Average Service Availability Index (ASAI)** of **99.999%**. Often referred to as "five 9s", it represents near-perfect reliability and commends the work of Generation, Transmission & Distribution, and System Control team members who worked around the clock to achieve it.

In 2022, we completed a multi-year project to add a new substation and a new 161kv transmission line. The **Line 106** project provides a new northern route to the national power grid and supplements existing southern assets. Energized in September, Line 106 added a critical element to MPW's Power the Future initiative.

As power generation changes nationally and here at home, transmission redundancy and voltage support are crucial to maintain a reliable supply in the event

other assets become unavailable. The new line and substation are critical to meeting that need and ensuring continued progress for Muscatine's diverse customer base — made up of high demand industrial load as well as commercial and residential users.

Moving overhead electric lines underground has been a longtime practice for reducing weather-related power outages, but even underground conductors can fail over time. This past year, the MPW engineering team proactively developed a matrix to rank conductor cabling risk of failure. The new matrix helps pinpoint future trouble



Massive steel poles (left) carry Line 106 cross-country from MPW's West Substation to the new North Substation along Highway 38 (above).

spots to better evaluate cables for replacement and strengthens our commitment to reliability.

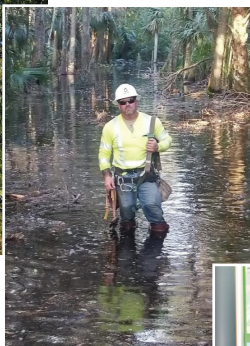
In designing and maintaining electric infrastructure, we take great care to minimize the possibility of outages. In 2022, one MPW line crew learned just how important the “ounce of prevention” can be when they were part of a Public Power Mutual Aid effort to restore services taken out by Hurricane Ian in Florida.

Ian's high winds took down many power lines down across the state and left more than two million residents without power. Our line workers were assigned to New Smyrna Beach, FL. MPW's crew partnered with a crew from nearby Eldridge, IA and worked 15 to 16-hour days as a team. At times, the linemen waded through waist deep water to reach the work area and depended on tree crews to clear paths to reach downed lines.

Our team, the last crew to leave New Smyrna Beach, returned home with renewed appreciation for MPW's own daily tree-trimming program which minimizes damage to power lines from falling limbs.



MPW Lineworkers responded to a Mutual Aid request following Hurricane Ian.



Pursuing its objective to achieve best-in-class water system reliability (Objective 3.2), MPW continued to invest in the water system. In 2022, the Utility executed planned replacements in several neighborhoods and served an integral role with the City of Muscatine on the **Grandview Corridor** project and the latest phase of the **West Hill Sewer Separation** project.



Water Distribution Operators lower a new valve into place.

These collaborative efforts provide MPW an opportunity to evaluate and replace aging valves, hydrants, and water mains while the streets are excavated for sewer and paving work. As needed, galvanized or lead service lines are also replaced and electrical or

communications updates are made as well, ensuring the most reliable service connections across the three utilities.

To maintain best-in-class communications system reliability (Objective 3.3), the Communications team replaced the entire backbone infrastructure for the **Metropolitan Area Network (MAN) Enterprise** service in 2021 and built redundant network fiber paths to provide seamless failover in 2022. Additional MAN upgrades were made to customer premise equipment, expanding service from 1Gb max per connection up to 10Gb max per connection at customer locations.

For FTTH customers, a **PON** (passive optical network) **level upgrade** was begun to increase shared capacity to 10 Gbps Down/10 Gbps Up.

**MPW has fiber to every home and business** and because **fiber capacity is nearly limitless**, these upgrades are implemented with minimal additional investment. The fiber network scales with bandwidth usage growth, providing a better communication product and enhancing customer experience.

## FUTURE

MPW has historically expanded its power generating assets as customer demand grew, thoughtfully engineering the most appropriate solution. Today's Powering the Future (PTF) strategy is the next evolution of power generation for Muscatine, concentrating on four key factors: Reliability, Affordability, Flexibility and Sustainability.



In November, the Utility entered into a Power Purchase Agreement (PPA) for our first utility-scale solar energy project, **Muscatine Solar 1**. Added to MPW's existing **South Fork Wind**, Solar 1 will double the amount of renewable generation in MPW's portfolio.

The solar PPA marks a major milestone for sustainability in the PTF strategy. Construction on the 24-megawatt solar installation is expected to begin in Q4 2024, at MPW's Grandview Avenue Wellfield with an operational target of Q4 2025.

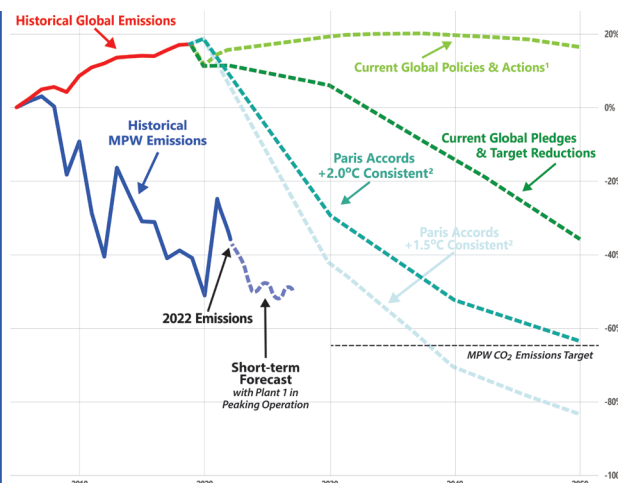


Flanked by community and industry supporters, MPW and Nokomis Energy sign the PPA for Muscatine Solar 1.

Even with the addition of solar, there remains a critical need for a “dispatchable” generation resource to meet the community's demand and to compensate for regional power generation retirements. The PTF plan also includes a new combined heat and power (CHP) unit, fueled by natural gas.

The proposed CHP unit is cleaner burning and efficiently uses energy while reducing carbon emissions. Engineering and further study continued in 2022 with a goal to have a CHP unit operational in 2028.

MPW has consistently been on the forefront of environmental compliance, proactively investing in controls and systems to reduce emissions wherever possible. Through PTF, the utility continues to work toward its ambitious goal of reducing carbon emissions by 65% by 2030 while balancing the need for reliable and affordable service upon which all our customers rely.





MPW Plant 1's retirement, originally set for 2023, has been deferred. In consideration of the area grid operator's forecast increase in capacity emergency declarations, Plant 1's operations have renewed importance for grid stability. Units 7 and 8 will remain in service as "peaking units" – limiting operations to times of high energy demand and grid instability. While this represents a variance in the original strategy, it fulfills the PTF plan's intent to transition reliably and safely (Objective 4.4).



Plant 1 houses Units 7 and 8

better bandwidth options. Customers responded favorably and many have taken advantage of low-cost upgrades.

For years, residents and business outside MPW's communications footprint have asked for an expansion of fiber services. Until now, the cost has been prohibitive with limited payback on infrastructure investment. Recently, grants from the State of Iowa **Empower Rural Iowa Broadband** grant program and **American Rescue Plan Act** (ARPA) have made it economically possible to serve new areas. They seek to provide every Iowan with at least 100Mbps internet speed. MPW successfully applied for assistance to build out service along Highway 22 East and in rural areas north of the Highway 61 Bypass.

In 2022, we completed three smaller expansions to new neighborhoods next to our existing service areas.

## GROWTH

One of our key growth objectives is Electrify Muscatine 2.0 —to seek and find new ways to promote and use affordable electric energy efficiently and wisely. MPW's long-running rebate program gives significant bill credits to both residential and commercial users who choose energy efficient replacements for appliances, motors, HVAC and lighting. The Utility even offered special cash rebates for Electric Vehicle (EV) purchases.

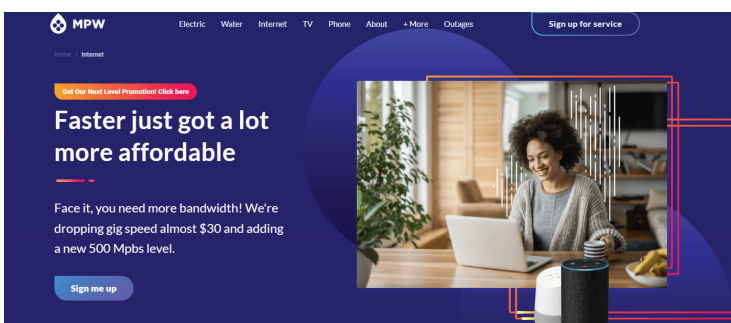


As EV ownership increased, MPW placed three more public charging stations in Muscatine; at Musser Public Library (408 E. 2nd St.), The Merrill Hotel (119 West Mississippi Drive), and at the Muscatine Mall (1900

Park Avenue). Each location can charge two vehicles simultaneously.

The Utility also positioned itself to transform business practices by planning to incorporate EVs and other environmentally responsible solutions for the Utility fleet. Plans include integrating new vehicle technologies, reducing fuel consumption and tailpipe emissions, while lowering vehicle maintenance costs.

A telephone service provider for residential and commercial customers since the FTTH conversion, MPW launched enterprise level phone service in 2022. Large businesses with up to hundreds of employee phones connected to their own PBX systems can now take advantage of MPW's low rates and high reliability. This reinforces our commitment to delivering services that support economic development.



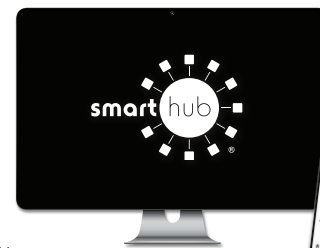
As the need for reliable, high-speed internet continues to grow, MPW initiated a restructure of its internet service packages mid-year, eliminating lower speed options and making higher speed options more attractive. This follows industry best practices to right-size offerings and optimize the customer experience with fewer and

## CUSTOMERS

As a not-for-profit public utility, MPW is uniquely driven to serve and satisfy the needs of customers, who are our neighbors, friends and family. Being close to the people we serve drives us to do better, deal fairly, go the extra mile, and innovate.

In 2022, a cross-functional team began the work to transition to a new customer information system (CIS), **iVue Connect**. The new system will provide numerous process efficiencies based on utility best practices, customer-friendly features, and new self-service options including the **SmartHub** app.

Customers may now register in SmartHub for auto pay and paperless billing at [mpw.smarthub.coop](https://mpw.smarthub.coop). Just use your existing 12-digit MPW account number (no dot, no dash) to register.



MPW makes regular monthly appearances on local TV talk shows like **Muscatine Today** and **Muscatine in Focus**, where we present timely topics that inform and educate. We also operate our

own public access channel and a local video on demand (VOD) service featuring public forums, tutorials, event coverage, and more. Get instant access to Utility information on our website, [mpw.org](https://mpw.org) and watch for news, notices, tips and videos on our highly followed social media pages.

In 2022, we launched the award-winning **I Am MPW** video series, spotlighting employees who normally work behind the scenes. Team members also serve as tutors on utility topics in our **How To Crew** video series — reminders that the Utility is operated by people customers are likely to know.

Our strategic plan encourages improvement of the community through partnerships on projects and events with the City, County, and organizations. MPW staff are actively involved in groups like



**Collaborate Muscatine** and **Keep Muscatine Beautiful** and participated in numerous public outreach events including the YMCA's **Community Block Party**, **Habitat for Humanity** and **United Way Day of Caring**.



We also educate local students each year, providing in-classroom electrical safety demos, power plant tours, subject matter speakers, and most recently, the summer **SPARK Program**.



### In June, hundreds attended MPW's **Customer Appreciation Day**

to learn about utility service delivery through interactive displays, equipment demos and hands-on activities. Attendees had many positive comments and left with a better understanding of the value MPW provides the community.

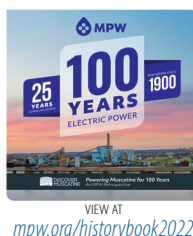
One topic of interest was residential solar. While MPW supports and has made provisions for co-generation and to make interconnection successful, some who had already purchased systems learned sellers



had used inaccurate rates in their calculations. These homeowners found themselves making huge monthly payments on oversized systems that actually cost more than promised. Get the facts and remember: **before you buy, verify**.

Learn more <https://youtu.be/wnIdSzQbMWI>

During Public Power Week in October, **Discover Muscatine** published a special section chronicling the history of MPW in honor of the 100th anniversary of the Electric Utility and the 25th anniversary of the Communications Utility. The stories and pictures provided a comprehensive look at MPW's beginnings in 1900 and the subsequent generations of employees who continued the original mission to provide reliable and affordable utility services to our community.



VIEW AT [mpw.org/historybook2022](http://mpw.org/historybook2022)

## DEVELOPMENT

Investing in and developing existing talent among MPW's workforce is part of the Utility's culture, as well as continuous improvement, safety, and lifetime learning. Employees are encouraged to find efficiencies and build operational excellence.

We have an active **Continuous Improvement Team** (CIT) which reviews process improvement ideas suggested by employee closest

to the work. The best are implemented and result in cost reduction and time saving.

Numerous educational opportunities were available for employees to learn and apply Lean principles to their daily work including a course on project management. As the year wrapped up MPW began its journey to achieving the **Malcolm Baldrige National Quality Award**.



Safety is a cornerstone of operational excellence and MPW's Generation Site **Confined Space Rescue Team** (CSRT) is a great example. The all volunteer CSRT has received the same level of training as outside first responders to conduct — emergency and high angle rope rescue, patient packaging, the use of multiple types of air systems, and confined space entry. This allows Generation staff to perform maintenance activities in confined spaces without relying on the availability of the Muscatine Fire Department which may be responding to other events throughout the day. When time is of the essence, CSRT's fast response prioritizes employee safety and helps maintain reliability.



MPW's **Mobile Crane Operator Team** is another example of specialized training. With this team in place, MPW need not rely on outside companies for heavy lifts at all hours. From a reliability standpoint, this shortens restoration time in the field or emergency repairs for Water, Generation, and Transmission & Distribution departments without depending on anyone else.

In May, the MPW Safety team coordinated with another local employer to bring international motivational speaker and author Chad Hymas to Muscatine. Hymas' inspirational story of his own life-altering work accident, provided not only a safety message but strategies for overcoming obstacles and bringing best efforts to your work each day.

MPW employees are encouraged to study best practices and to network with peers through involvement in industry associations. In 2022, we were recognized by the **American Public Power Association** (APPA) with two Public Power Communications awards; an **Award of Excellence** for our "I am MPW" video series and an **Award of Merit** for our Powering the Future web page.

An incredible amount of work has been planned, started, or completed in the second year of MPW's Strategic Plan. With strategies, objectives and initiatives set and a vision clearly defined, the MPW team took action in 2022. Each individual's goals and work plans mirror the organization's focus and drive their implementation for the benefit of our customers.

MPW is **advancing strategies** and **delivering results**.



Address: 3205 Cedar St. • Muscatine, IA 52761 Visit our website: [www.mpw.org](http://www.mpw.org).  
Lobby Hours: 8 AM - 4 PM; Drive-thru Hours: 8 AM - 5 PM, Mon-Fri. HelpDesk: 6 AM - Midnight, 7 days a week.  
Utility Emergencies: 263-2631, opt 0 (Phones answered 24/7) • HelpDesk: 263-2631, opt 2 (6 AM - Midnight)  
Customer Services: 263-2631, opt 3 • Pay by Phone: 263-2631, opt 1 • 24-hour payment drop box available

**f** LIKE US! <http://www.facebook.com/MPWutility>

**t** FOLLOW US! [https://twitter.com/mpw\\_tweets](https://twitter.com/mpw_tweets)