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PAID at Twin Cities MN

Brainerd and Grand Rapidscut the ribbon on new solar facilities

Minnesota Municipal Utilities Association



Brainerd Mayor Dave Badeaux cuts the ribbon on Brainerd's new solar plant as dignitaries, including Todd Wicklund and Trent Hawkinson, look on.

Editor's Note: Within the space of a week, three ribbon cutting ceremonies for solar power generation occurred in Minnesota. Minnesota's municipal utilities were responsible for two of the three events.

The first, on June 23, took place at Minnesota Power's new Sylvan Solar Project west of Brainerd. (See article on page 7 in this issue.)

Brainerd Public Utilities had a ribbon cutting on June 27 to celebrate its new solar installation near the Brainerd Lakes Regional Airport, and Grand Rapids Public Utilities followed with a ribbon cutting on June 29 to celebrate its new solar plus battery storage installation near the Grand Rapids-Itasca County Airport.

MMUA sat down with Brainerd's Public Utilities Director Todd Wicklund and Electric Supervisor Trent Hawkinson, as well as with Grand Rapids Public Utilities General Manager Julie Kennedy. Their stories about their unique paths to their big days are printed to the right.

Brainerd Public Utilities Solar

MMUA: When did you first get involved in this project or idea? How did it start? How has your involvement changed over time?

Todd: The process of evaluating whether a solar project would make sense for BPU customers started approximately five years ago. A utility-scale solar project did not make economic sense until BPU begin purchasing energy from American Electric Power (AEP) in July 2019, and the opportunity presented itself to partner with AEP on a project.

That fall, we came up with the idea of the airport project. So, we started meeting with the airport commission, and getting our commission up to speed. We entered into a Purchased Power Agreement (PPA) with AEP on Christmas Eve of 2019 to purchase the generation

Continued on page 8

Grand Rapids Public Utilities Solar

Volume 28, No. 7

Hometown strengths.

Hometown solutions.

MMUA: When did you first get involved in this project or idea? How did it start? How has your involvement changed over time?

Julie: It was in 2016. I was the City Engineer, when a group of citizens called the Itasca Clean Energy Team (ICET) approached the city requesting we look at building a subscription-based community solar garden. I was transitioning from being a city employee to being a utility employee and said if they could hang on a few months, I thought this was a project the utility could investigate. They agreed, so the project followed me to the utility, though what we envisioned then is not what the project is today. What has been completed includes double the original solar array size and also includes a battery storage system.

Continued on page 11

Impacts of elections and how to deal with them

By Kent Sulem

Elections have consequences.

This adage has been getting a busy workout lately. And it is advice that should never be forgotten. Sometimes the impact is easy to see, while other times it is more subtle. At all times, though, people need to think about the decisions our fellow citizens will collectively make and how to deal with what happens.

The 2016 federal election gave President Trump the rare opportunity to appoint three members of the Supreme Court, as well as 231 district and appellate court judges, as well as dozens of specialty court appointments such tax court judges. The 2020 federal election ushered in President Biden and gave Democrats control of the House and Senate. The 2022 midterms saw the Senate stay under Democrat control, but the House flipped to Republican control. Now many

political analysts are predicting that Democrats will retake the House in 2024 and lose the Senate. This prediction is based on an analysis of which seats are up for election.

So, what does this have to do with the 2023 Minnesota Regular Legislative Session? Well, the adage is true at the state level too, and the impacts brought about by the federal elections played a role in who prevailed in Minnesota in the 2022 state elections. By one lonely seat, state Democrats regained control of the Senate, added one seat to their existing majority in the House, and kept Tim Walz in the Governor's office. In other words, they hit the trifecta of control. In addition, all constitutional offices (Lt. Governor, State Auditor, Secretary of State, and Attorney General) were won by Democrats.

Election analysts give credit to the overturning of Roe v. Wade

Forever chemicals creating forever problem for water utilities

By Elizabeth Wefel; Special to The Resource

Per-and-polyfluoroalkyl substances (PFAS) have been manufactured in the United States since the 1940s.

Over the last five years, the Minnesota legislature and regulatory agencies with jurisdiction have stepped up their activities to address growing concerns about the health impacts of this class of chemicals throughout Minnesota. The state's municipal utilities have not created this problem. Still, as the primary providers of clean drinking water as well as the main treatment facilities for wastewater, municipal water and wastewater utilities will be part of the solution. This article highlights the current regulatory and legislative efforts to address PFAS in drinking water and wastewater, along with the implications for municipal water and wastewater utilities. It does not address in depth the ongoing legacy PFAS issues in the east metropolitan area nor the associated 3M settlement.

PFAS are a class of more than 5,000 different types of chemicals, notable for the presence of a powerful carbon-fluorine bond. These chemicals became popular because of their resistance to heat, water, and oil, PFAS car be found in countless consumer and industrial products including cookware, firefighting foam, clothing, makeup, and more. PFAS are often referred to as "forever chemicals" because the carbon-fluorine bond is so strong that the chemicals do not easily degrade and will accumulate in human bodies. Certain types of PFAS have been linked to increased risks for cancer, liver and kidney disease, immune system dysfunction, and other negative health impacts.

Initially, state regulatory efforts regarding PFAS were

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Minnesota Public Power Walleye Fishing Tournament

Congratulations to the 2023 winners of the Minnesota Public Power Walleye Fishing Tournament!

The event was held June 3, 2023, at Rush Lake in Ottertail, Minnesota.

First Place: Kenny Steffens (Lake Region Electric Coop) and Mike Steffens: 12.6 lbs.

Second Place: Todd Treichler (Crow Wing Power) and Connor Kerr (Elbow Lake Municipal Power): 11.35 lbs.

Third Place: Paul Bergren (Lake Region Electric Coop) and Brian Dykhoff (Otter Tail Power Company):

10.45 lbs

Fourth Place: Kacee Skogg and Toby Curtis (Lakes Area Tree Service): 10.1 lbs. **Fifth Place:** Logan Wacker (Border States Electric) and Ben Wacker: 9.85 lbs.

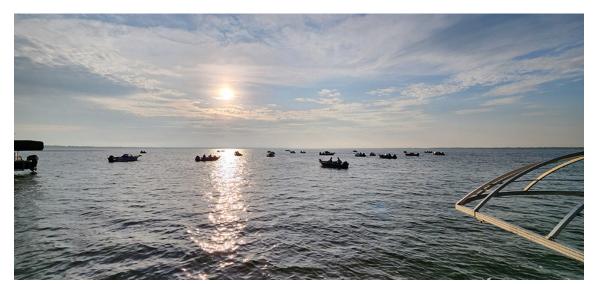
Sixth Place: Easton Dale (City of North St. Paul) and Travis Pederson (City of Anoka): 6.8 lbs.



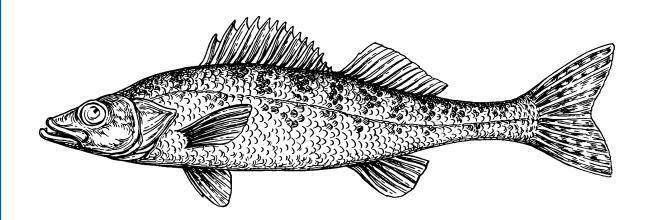
Pictured are the winning team (L-R) Mike Steffens and Kenny Steffens.



Mike Willetts from MMUA enjoys the day with Phil Misialek from Irby.



Boats gather as the start of the fishing tournament nears.



What's your plan?

"Plans are worthless. Planning is everything."

-Dwight D. Eisenhower

In early August I will be returning to Glenville, Minnesota for the first all-school reunion since 2003. Without the need to see who has gained or lost weight, hair, and money (thanks, Facebook), I can imagine this four-day extravaganza will lead to some conversations about where we all ended up versus where we thought we wanted

In my case, I had a plan for my life. Almost none of the specifics occurred as I thought they would, but that's okay. Turns out being a world-famous author would have had tax implications I am glad not to be dealing with. The main thing is that I'm happy with where I've ended up, and it was the values - the big picture - not the details that really mattered. A plan, I have learned, is not about particulars. It's about taking the time to discern your priorities and then sailing the seas of circumstance in a manner that reflects them.

Strategic planning for utilities. $I\ was$ in Grand Rapids recently, working with the public utilities commission on a strategic plan. It's a new service MMUA is offering, and I asked the participants, "What do you want out of this?" To a person, nobody wanted an arduous process that produced a useless document that is never seen again. Instead, the group sought to create a plan that is relevant, actionable, and measurable. They want it to serve as a roadmap for the next few years; ideally, it will drive and support decision-making.

That is exactly what we are going to produce. Between July and September, we'll be gathering feedback from ratepayers, employees, and other stakeholders. Then

the commission, staff leaders, and MMUA facilitator (that's me!) will come together to synthesize it. The final document will be used internally for operational planning and budgeting, while a less detailed version will be used externally for communicating value. The commission will see a periodic report card depicting how the utility is achieving the community's goals.

Planning versus survival. In my travels over the past few months, I have had the opportunity to talk with many of our utility colleagues and hear about what is real in their communities.

One town has been without a lineworker for nearly a year. The salary needed to attract a candidate could easily be \$25,000 more per year than they are offering. The supervisor lamented, "I don't know how we can keep this thing going. The commission might be ready to sell [the utility] soon."

Another town is having trouble retaining employees because the nearby co-op keeps hiring them away. In frustration, the leader I spoke with said, "I don't understand why the commission refuses to pay what it takes to keep these guys. If we don't have enough lineworkers, we'll have to contract with the co-op, and then we'll be paying the higher salary anyway, plus a markup." Elsewhere, I have heard about the difficulties a Minnesota town has faced with attracting and retaining a water/ wastewater superintendent. There are communities where inefficiencies and egos complicate employees' lives - and maybe make them less safe. In one place, the surprise change of a utility leader is giving staff morale a kick in the gut.

Outside of all of these things, our municipal utilities face ongoing strains with rising equipment costs, supply headaches, territory

questions, obtaining grants, and a myriad of other daily realities.

So often when I speak with utility leaders facing the dilemmas I've iust described. I hear some version of, "I really don't know what we are going to do." That's the point of a plan. It may not rain fairy dust from the sky and magically fix all your problems, but it will give you direction so the problems can be addressed strategically and constructively.

"But these are hard problems. Nobody has an answer." Right. So what do we do about that?

A planning process can help you eliminate the things you don't want to see happen and clarify the things you do want to see happen for your utility. Then you can take steps in the direction of vour intentions, rather than falling victim to political cycles, economic fluctuations, strong personalities, fear, and fatigue. You can justify taking certain actions and not taking others.

When I gave my high school graduation speech, I didn't have the first idea how to attain the life I hoped to live. I certainly lacked the imagination to consider many of the things I have since experienced on the journey.

I knew, generally, what kinds of work I wanted to do and what kinds I would either hate or be bad at. (Lead vocalist in a pop band was an idea, though I was willing to start as a backup singer for Barry Manilow – but alas, my vocal prowess is limited to singing in non-auditioned community choirs and in my shower.) The main thing was this: whatever else happened; I wanted a career where I'd be helping people. Forty-something years later, here I am.

And here you are. You are reading this because you have some sort

From My Desk to Yours

Karleen Kos MMUA CEO



of stake in the outcome of a utility in or around Minnesota. You care deeply about what happens to it and to the ratepayers who depend on it. Yes, these are hard problems to solve, but when has it ever been otherwise?

Carly Fiorina, the onetime CEO of Hewlett Packard said recently, "Leadership is not about merely riding inevitable change or even using it to gain an advantage. Rather leadership is about serving others by harnessing and driving change."

Whether you are concerned about the carbon-free mandate, staffing issues, equipment costs. politics, or all of the above, this is an opportunity to plan for the days ahead. The challenges are coming whether you plan or not. So, what can it hurt to give it a go and come up with a strategic plan your community can support? What will happen if you don't have one?

There's the old saw, "Failing to plan is planning to fail." With all the balls in the air – and maybe even a couple on the ground -- you might not think your utility has the time for planning. In my experience, a good strategic plan actually saves time in the long run.

I think when a lot of folks hear the term "strategic plan" it evokes memories of painful meetings debating a word or two, followed by a document full of either obvious



or useless language (think "we will optimize our resources to improve our operational execution" - egad!). A good facilitator can help. He or she will tailor the process to your group and guide you through how to implement it.

So whether you use MMUA to help with your strategic plan or get it done some other way, commit to the process. Engage the community and your staff team. Cast a vision. Insist that the finished product be something relevant to running the utility now and in the years ahead. Make it reflective of your values and your community's aspirations. Make it something that can constantly evolve, as the waves of circumstance roll in. Most importantly, make it something you all look back on five years from now, see the results it fostered, and say with pride, "We did that."

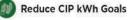
"If you don't know where you're going, you'll end up someplace else." -Yogi Berra

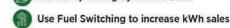
Council and Commission Members: Learn more about MMUA's strategic planning process at the Summer Conference in Duluth and at one of four upcoming "Interacting on the Issues" sessions. Details are on page 20 or at mmua.org.

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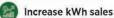


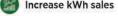


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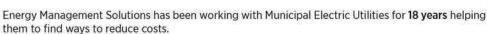








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Xcel rate hike of 9.6 percent approved



On June 1, the Minnesota Public Utilities Commission approved a rate increase of 9.6 percent over three years for Xcel Energy.

Xcel's original proposal was for a 21 percent increase over three years. The high increases were requested because Xcel said it needs the funds to replace aging infrastructure and install renewable energy generation.

Xcel's final rates are estimated to be lower than its interim rates, meaning customers should receive a refund.

VW Phase 3 webinar explores use of settlement funds

The Minnesota Pollution Control Agency (MPCA) hosted a webinar on June 13 to discuss the use of \$14.5 million in Phase 3 settlement funds that have been allotted to the MPCA as a result of the Volkswagen emissions scandal.

The settlement occurred because of illegal actions that Volkswagen took from 2009 to 2015, when its diesel automobiles' emissions controls were programmed to activate only during emissions testing. In reality, VW diesels significantly exceeded nitrogen oxide (NOx) emissions on the road.

Phase 1 and Phase 2 have already taken place. The Phase 3 funding will consist of \$14.5 million that will be used to mitigate the effects of these excess emissions in Minnesota. Some of the projects that have been funded so far include fleet electrification, electrification of heavy equipment, electric charging stations, and clean school buses.

The VW program has stakeholder meetings before each phase. These are opportunities to comment, but the purpose for the webinar was to directly provide information to people and organizations that have a specific interest in the VW settlement and its aftermath.

MPCA discussed where they've been in this process, and where they hope to go.

Entering the process, VW vehicles in Minnesota emitted 600 tons of illegal NOx, and MPCA wanted to eliminate that. MPCA's first thought was to target the elimination of 2000 tons of NOx, but they ultimately decided that eliminating 4000 tons was a more appropriate target. MPCA also planned to get 150 tons of fine particles eliminated and 100,000 tons of greenhouse gases eliminated with the VW funds.

At the end of Phase 2, they will have eliminated 2,569 tons of NOx. For fine particles, they will have eliminated 283.9 tons. For greenhouse gases, 85,844 tons have been eliminated at this time.

With the original planning, 60 percent of the funds were allotted to the Twin Cities and 40 percent went to projects in Greater Minnesota. To date, the committed funds reverse those numbers, funding projects at 60 percent in Greater Minnesota and 40 percent in the Twin Cities.



Moving into Phase 3, MPCA asked participants which of these goals was most important (numbering reflects actual preferences of webinar attendees).

- NOx emissions reductions
 Environmental justice in
- Greater Minnesota

 3 Metro/Non-metro targets
- 3. Metro/Non-metro targets (60 percent metro, 40 percent non-metro)

Within this area, MPCA discussed the challenge of meeting the metro/non-metro targets while still ensuring more environmental justice in Greater Minnesota. Significant funding would need to be allotted to the Twin Cities in order to meet the original urban/rural targets, which would harm the Greater

Minnesota environmental justice goals.

One attendee asked, "What NOx levels do you assign to electric vehicles versus gas-burning vehicles?"

MPCA noted that they assign a value to electric vehicles based on current power plant emissions, and they assign a set value based on each kilowatt produced in Minnesota.

Other priorities on the call from attendees included:

- o Utilities infrastructure for charging.
- o Electric buses in environmental justice communities.
- o Tribal-specific projects.
- o Rural-specific projects.

MPCA observed that what has changed since the original settlement funds became available is the plethora of federal programs and funding that have emerged in the environmental space—a welcome change from the past. They also have some funds through the Minnesota state budget, such as \$14 million through the Department of Commerce for electric school buses. Therefore, MPCA asked, "Is duplicating these programs

okay, or should we try to avoid duplication?"

Attendees felt they wanted to fund projects that will complement other programs, rather than duplicating or competing with other programs.

The Phase 3 plan will be shared at public meetings across the state later in the year. It will then be submitted to the trustee in November of 2023.

Attending on behalf of MMUA and its members, government relations attorney Bill Black suggested that entities that begin to convert fleet vehicles to electric should have access to the settlement funds as well. A rebate on vehicle purchases would be something to consider, as an example. Doing that would encourage companies to start the process of electrifying their fleets.

If you have comments or recommendations for the Phase 3 funding, please email vwsettlement.pcsa@state.mn.us. Please include "Phase 3 planning" in the subject line.

Environmental review process starts for new Minnesota nickel mine



On June 21, Talon Metals Corporation filed papers to begin the environmental review process for its proposed nickel mine, which will be located near the town of Tamarack, Minnesota.

The mine will be underground and will cover about 60-80 acres. Nickel from the project would go to supply the metal for Tesla's electric car batteries. Tamarack is in east-central Aitkin County, about 130 miles north of Minneapolis.

Environmental advocates and the Mille Lacs Band of Ojibwe have expressed concerns about the project, which could have some environmental impacts. In response, Talon said that the project has safeguards to prevent sulfuric acid, a byproduct of nickel mining, from being released into the environment.

The Department of Energy has already funded a \$114 million grant for an ore processing plant located in North Dakota that is linked to the project.

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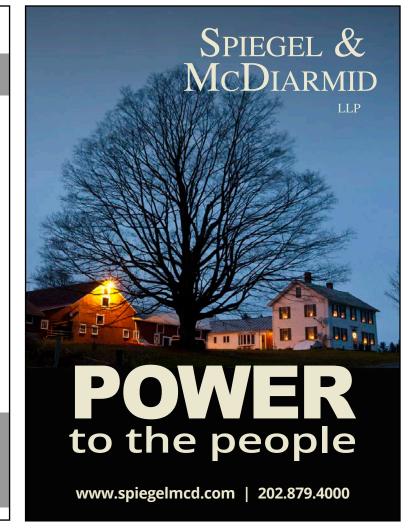
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Austin Utilities announces staff retirement, advancement



Kelly Lady

From: Austin Utilities:

AUSTIN, Minn. June 23, 2023 - Austin Utilities today announced the retirement of Kelly Lady, Marketing and Energy Services Manager with 30 years of service effective August 11, 2023. "Thank you to



Melissa Swenson

Kelly for her long-term career at Austin Utilities. We greatly appreciate her leadership to better serve our community. We wish her the best in her retirement," said Mark Nibaur, General Manager at Austin Utilities

Lady joined Austin Utilities

in 1993 as credit and collections secretary. She moved to operations administrative assistant in 1998 and in 2000 added the gas buying responsibility to her duties. She held the energy services consultant role until her promotion as marketing/energy services manager in 2013. On the gas side of the business, Kelly was part of a team that introduced a gas hedging strategy to Austin Utilities. It benefits customers by protecting customers from price spikes and smoothing out the highs and lows of supply and demand.

In 2000, Kelly collaborated with representatives from Rochester Public Utilities and Owatonna Public Utilities to launch the residential Conserve and Save Rebate Program that incentivizes customers to save money by purchasing energy saving equipment. In 2015,

Kelly, partnering with Riverland Community College, installed the first Electric Vehicle (EV) charger in Austin.

Kelly's contributions in customer outreach will be lasting. She founded the EV Owners Club and the Customer Advisory Panel. Both groups help Austin Utilities gain knowledge and feedback to better serve our customers. She was the first at Austin Utilities to use social media to communicate with our customers. Most recently, she implemented online rebate processing, making it easier for customers to submit rebates when it is convenient for them.

Kelly also spent time serving on many local, state and national boards. Most recently, she was the Chairperson for the American Public Gas Association Marketing Committee and received the J. Hardie Johnson Service Recognition – an award given to individuals retiring after serving 25 years in the gas service business and participating as an APGA member system representative.

The following advancement will take place as a result of the retirement:

- Melissa Swenson, Customer Service Supervisor, advanced to the position of Communications and Energy Services Manager, effective June 2023.

"Congratulations to Melissa on her advancement," Nibaur said. "We look forward to her leadership."

Swenson began her Austin Utilities' career in March 2010 as Customer Service Representative. She was promoted to Customer Service Supervisor in 2014

Scientists work to use phosphorus from wastewater for agriculture

In a paper published in the journal *PLOS Water*, scientists from the University of Idaho detailed their work to extract phosphorus from wastewater and infuse it into biochar, an incinerated organic material that looks like coal.

Biochar is produced during the heating of biomass, and has important uses in agriculture and in carbon sequestration. By applying it to fields, biochar can increase soil fertility in acidic soils, provide drainage and aeration, and filter water. It also sequesters carbon underground so that it does not release carbon into the atmosphere.

When the sponge-like materials are infused with phosphorus from a wastewater operation or other sources, it "supercharges" the biochar by providing more nutrients to crops. It also has the positive result of improving surface water quality.

The research team has patented

the process, and will continue to work on their research on taking waste products and turning them into something useful.



New alloys could help revolutionize electrical generator efficiency

According to research conducted at Sandia National Laboratory in Albuquerque, New Mexico, 3D printers and computer modeling may be the keys to rapidly create super-efficient alloys of different elements that could be used in many different industries, including for the turbines of power plants.

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Computer modeling is used first to estimate what combinations of elements would have the best combination of strength, lightness, and heat resistance for a particular application. Then 3D printing can rapidly create the prototype in the precise mix of elements called for by the computer model.

Using these ideas, the team created a six-element "superalloy" that is made of aluminum, titanium, niobium, zirconium, molybdenum, and tantalum. This combination was expected by the computer model to yield an alloy perfectly suited for use in electricity generation. When put to work, the alloy performed significantly better than current alloys, just as the model predicted.

The team plans to apply this process to create alloys for a variety of industries, including the transportation industry, where the newest generation of light, strong alloys are always in demand.



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Forever chemicals

 $Continued\ from\ page\ 1$

focused on addressing drinking water contamination in the eastern metropolitan area associated with a 3M plant and related disposal sites. As scientific understanding of the danger and ubiquity of PFAS has advanced, a more comprehensive approach has been developed. In February 2021, the Minnesota Pollution Control Agency (MPCA) unveiled Minnesota's PFAS Blueprint, a wide-ranging plan involving multiple government agencies to prevent, manage, and clean up PFAS pollution. The Blueprint includes 10 issue areas including limiting PFAS exposure from drinking water and managing PFAS in waste—and highlights opportunities in each of those areas.

Implications for drinking water systems

The Minnesota Department of Health (MDH) began a statewide PFAS monitoring project in 2020 that will test all community water systems for PFAS by the end of 2023. Preliminary testing found PFAS detectable in 67% of these systems, but only 1% (three systems) exceeded current PFAS guidance. That number may increase as the MDH reevaluates its guidance values and because the federal **Environmental Protection** Agency (EPA) is also proposing its first-ever national drinking water standard to limit six types of PFAS. Rulemaking is ongoing, but the initial proposed federal levels are much lower than MDH's levels.

Some of the most popular methods for PFAS removal in drinking water include reverse osmosis, ion exchange, and granular activated carbon. Although some newer home filtration systems can remove certain PFAS from drinking water, regulators prefer treatment at the system level where health guidance is exceeded.

This year the Legislature appropriated \$25 million for grants to support public water treatment systems with identified PFAS contamination issues. Although the details of the program have yet to be released, we know the grants will support the planning, design, and preparation of solutions as well as the investigation of contamination instances. If more municipal water utilities are required to treat for the presence of PFAS, additional funding streams will likely be needed.

Implications for wastewater systems

Addressing PFAS at the wastewater level may prove to be more complex, challenging, and expensive than at the drinking water level. The volume of effluent makes treatment more difficult, and the potential for PFAS in biosolids is also a cause for concern. Biosolids are solid organic matter recovered from wastewater treatment processes. They have been beneficially reused as fertilizer for decades.

The MPCA recently conducted a groundbreaking study

(available at https://www.pca. state.mn.us/news-and-stories) that sheds light on the financial challenges associated with PFAS cleanup from wastewater and biosolids. It concluded that the costs of removing and destroying PFAS from water and biosolids discharged by wastewater treatment facilities in Minnesota could range between \$14 billion and \$28 billion over a span of 20 years. This staggering amount highlights the scale of the problem. Although promising advancements in the development of new technologies could potentially reduce these costs, removing and destroying PFAS from municipal wastewater will remain unaffordable for the foreseeable future. Long-term, alternative sources of funding are needed to make PFAS destruction and removal from municipal wastewater financially viable. This process should involve exploring partnerships with federal agencies, securing grants, or implementing a dedicated funding mechanism to support these efforts.

Given the significant financial burden associated with PFAS cleanup, controlling PFAS at the source and preventing it from entering wastewater effluent and biosolids is more important than ever. The MPCA has developed and implemented a comprehensive PFAS Monitoring Plan to facilitate source control, which is expected to conclude monitoring activities by Summer 2024. The voluntary plan is focused on a predetermined list that includes 91 municipal wastewater treatment plants. Facilities selected to participate opted in via a memorandum of understanding with the MPCA and may opt out at will. Once the monitoring activities are completed, the MPCA will release a final PFAS monitoring report. The MPCA is developing a strategy to provide results to cities and additional content and context for the public to interpret the data.

Data from the sampling conducted as part of the monitoring plan will be used to identify, reduce, and ultimately remove sources of PFAS in wastewater treatment plants and the environment. The data will also be used to develop new PFAS response thresholds and regulatory frameworks for addressing PFAS, including water quality standards, permit requirements, and risk assessments.

Additional resources will soon be available to assist municipal wastewater facilities with their PFAS source control efforts. In 2021, the Legislature, at the instigation of city groups—including the Coalition of Greater Minnesota Cities (CGMC) and the League of Minnesota Cities (LMC)—appropriated funding to create a PFAS source reduction stakeholder group and source reduction tool kit for wastewater and solid waste disposal systems. The MPCA commissioned the multinational environmental consulting firm, Antea Group, to undertake this work of identifying possible sources of PFAS and developing a database and toolkit designed for operators to implement to help reduce sources of PFAS. These tools will enable operators to assess their facilities and identify potential PFAS sources. The toolkit includes a screening and PFAS search tool, which were unveiled in early June. It is expected that these will become more readily available in the coming months. Overall, the MPCA's goal is to see outcomes from the work of the Antea Group harmonize with the PFAS monitoring plan so that useful tools are available to the intended groups of users.

In addition, during the 2023 session, the Legislature appropriated \$4 million for grants to public entities and industries

to identify sources of PFAS entering facilities and develop initiatives to reduce PFAS from entering facilities and prevent releases. Currently, the MPCA is developing the RFP and scoring criteria for awarding those grants, which should be available later this year. You can sign up to receive notifications from the MPCA about new funding opportunities at https://www.pca.state.mn.us/business-with-us/grants-loans-and-contracts.

Though not aimed at municipalities, another major piece of legislation should facilitate source control efforts. Beginning in 2025, manufacturers will no longer be able to sell multiple classes of consumer products that have intentionally added PFAS in Minnesota. Furthermore, all manufacturers must disclose whether their products include PFAS by 2026.

PFAS water quality standards on the horizon

Although much of the MPCA's work with municipal wastewater facilities on PFAS has been voluntary to date, recent legislative changes could lead to more mandatory requirements. In the 2023 Omnibus Environment and Energy bill, the Legislature directed the MPCA

Continued on page 7



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Forever chemicals

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to begin rulemaking to develop water quality standards for six different types of PFAS by July 1, 2026. At that point, municipal wastewater treatment facilities could begin to see effluent limits on PFAS in wastewater permits if their receiving waters exceed the new standards.

During the legislative hearings on this proposal, MPCA staff acknowledged that removing and disposing of PFAS will not be economically feasible at municipal facilities any time soon. Agency staff stated that the MPCA would likely need to work with municipalities on variances to these requirements, at least in the short term.

Federal efforts will impact municipal utilities

Federal regulatory efforts will also have a significant impact on Minnesota water and wastewater utilities. The EPA is currently working on new proposals to regulate PFAS under two important acts: the Toxic Substances Control Act (TSCA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). These proposals are expected to be adopted in some form within the next year.

Under the TSCA, the EPA aims to regulate the manufacturers of PFAS, ensuring that their production and distribution adhere to specific guidelines. Under CERCLA, the EPA plans to hold traditional potentially responsible parties (PRPs) accountable for PFAS cleanup efforts. This means those responsible for the contamination will be required to take appropriate actions to mitigate the resulting pollution.

Although both rulemakings

are ultimately scoped to address manufacturers of PFAS, water and wastewater utilities are included in a plain reading of the proposed CERCLA rule. The EPA is drafting a separate enforcement discretion policy that would shield publicly owned and operated water utilities, municipal solid waste landfills, and farmers who apply PFAScontaining biosolids to their land. The EPA is currently evaluating PFAS in biosolids through its Biosolids Program, which assesses the potential human health and environmental risk posed by pollutants found in biosolids. The EPA plans to complete the risk assessment for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) in biosolids by December 2024. This assessment will play a crucial role in determining and implementing Minnesota's policies regarding biosolids.

Looking ahead

Over the next 12 to 18 months, there will be opportunities at the individual utility level and cooperatively through municipal groups to address the growing PFAS problem. As the results of PFAS wastewater monitoring and the Antea Group source reduction tools are made available, utilities can begin assessing potential source reduction strategies at their facilities and potentially begin

applying for grants. As rulemaking on PFAS moves forward, groups like MMUA, the CGMC, and others can weigh in to ensure that the interests of municipalities are addressed. Long-term, our municipal groups will need to work together to ensure that the state is looking creatively at funding options and strategies so that our utilities are not unduly burdened in addressing the PFAS pollution problem.

Elizabeth Wefel is a senior attorney/lobbyist at Flaherty & Hood, P.A. with degrees from Macalester College and the University of Minnesota Law School. Ms. Wefel focuses her legislative and regulatory work on environmental, energy, and capital investment issues affecting communities in Greater Minnesota. Her clients includethe Coalition of Greater Minnesota Cities (CGMC), Missouri River Energy Services (MRES), the Minnesota Environmental Science and Economic Review Board (MESERB), and Greater Minnesota Parks and Trails. When not at the Capitol, you can usually find her on a bike or in her garden. Special thanks to Cooper Silburn, Environmental Regulatory Specialist at Flaherty & Hood, who made significant contributions to this article.

Minnesota Power's Sylvan Solar Project



On June 23, Minnesota Power (MP) held a ribbon cutting for the Sylvan Solar Project, an 80-acre solar facility situated west of Brainerd/Baxter in Pillager near Highway 210.

The site produces 15.2 megawatts (MW) of electricity and is capable of powering 3,400 homes.

In a statement, MP Chief Operating Officer Josh Skelton said, "This investment in clean energy supports local jobs, local education, local manufacturing and local communities as we strive to create a just and equitable transition to a carbonfree future with opportunities for all."

MP now operates 30 MW of solar on sites located throughout central and northern Minnesota.

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Brainerd Public Utilities Solar

Continued from page 1



output from the approximate 6 mega-watt alternating current (MWAC) solar project. Along with the PPA with AEP, we entered into a separate 30-year agreement with the Brainerd Lakes Regional Airport to lease 45 acres of land. The utility would then sublease the land to AEP, who would be the actual owner of the solar project in order to capitalize on federal tax credits that would help to lower the total cost of the project.

Actual construction was expected to start in the spring of 2020; however, the FAA approval process came to a stop due to COVID, and there were issues with getting the solar panels ordered. FAA approval was finalized in the summer of 2022, and actual construction began shortly thereafter. The original PPA was amended three times due to changes in construction timelines and the cost of materials. The actual commissioning of the 5.7 MWAC facility occurred on December 30, 2022.

There were a few challenges encountered in getting this project to the finish line. First, working with other governmental agencies to accomplish a goal can be done, but not without much patience. Second, construction delays always cost more money. And third, assessing the impact of a project of this size to BPU ratepayers based on energy cost assumptions going out 30 years is never an exact science.

The rate we are paying for each kilowatt hour (kWh) generated is approximately 12 percent less than we are paying under our regular PPA agreement with AEP. We do have the option to purchase the solar facility after

the production investment tax credits have been fully recovered.

MMUA: Tell me about your project partners and what it has been like working with them. How does your power agreement work?

Todd: How the power agreement works is this: AEP is the owner and is responsible for any maintenance. We have a 30-year agreement with them. The agreement with the airport is for the same amount of time. We pay AEP a rate per kilowatt hour on the generation, so it is a pure energy rate.

The energy rate in the solar PPA is higher than we pay under our regular PPA with AEP; however, when you take into account the MISO and transmission charges that are not incurred for each solar kWh generated, since this generation is deemed to be behind the meter, the actual cost for each solar kWh generated is approximately 12 percent less than each kWh purchased under regular PPA with AEP.

Our regular load is with AEP Energy Services, while the actual development of the airport solar facility was with another division of AEP called AEP Onsite Partners. Both divisions were great to work with, considering several amendments to existing PPA were necessary, as well as completion of a separate solar PPA.

Trent: The partnership between AEP and their on-site energy team was great.

MMUA: When did the solar plant start operation? Was operation

smooth out of the gate?

Trent: The solar field went into operation in late December 2022. We were eager to see how this project would perform for us in Brainerd. Lots of work goes into the front end of a project like this. We had many meetings as a project team. This approach to projects is vital. There are many aspects of the project that can be controlled through good planning and then the field work begins with all the lines on paper coming to life. Overall, this project had very few hiccups. That was impressive for a project of this complexity.

MMUA: What is the lifespan of the solar arrays?

Trent: We don't have any battery storage. We did engineer in space for that in the future. This project's life span is 30 years. AEP does all of the original equipment manufacturing. This will help us see what kind of solar projects might be the most beneficial to our community in the future.

MMUA: How much would a battery smooth peak demand? What are you seeing as far as cost savings?

Todd: This is all behind the meter, being used in our distribution system at this time. When we add more solar projects, we have to be mindful about how much can go onto the grid as opposed to what we can absorb.

MMUA: Could this solar project see a future expansion? Is the site at the airport filled?

Todd: Our current footprint out there is full. We hoped to be a little closer to the runway, however, FAA regulations would not allow construction (if I remember correctly) to occur within 450 feet of the runway. There could be future sites at the airport but they have not been explored at this time.

MMUA: BPU is moving forward on plans to construct a 1.3-megawatt solar project near the BPU wastewater treatment

facility. The project was approved in February, and BPU has a PPA with AEP OnSite Partners. What is the timeline on this project?

Trent: This project will start August 2023, and the target completion date is November 2023.

MMUA: Looking back on this process, what have been some of the more challenging or interesting parts of it?

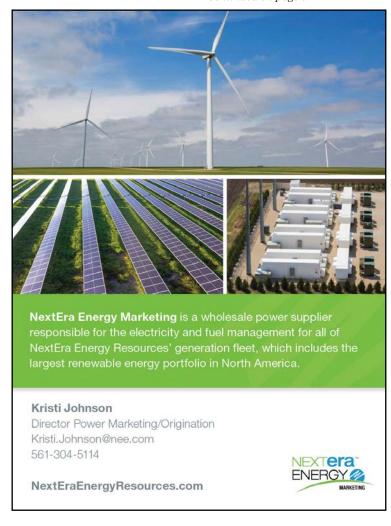
Todd: The first thing would be that it is possible to do! It can look like a lot of daunting tasks when you have to work with a

lot of government agencies. Stick with it and work with these groups. The airport had its own commission to work with, there was storm permitting, working with the MPCA and the DNR; they all got involved.

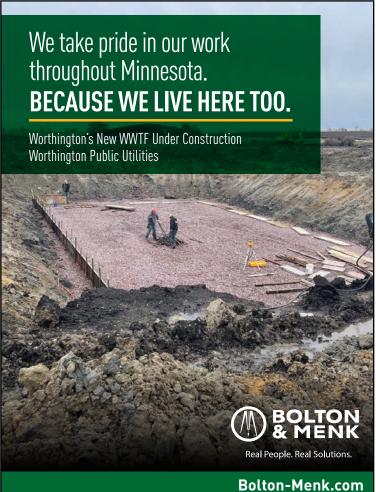
One of the better things was we got to cultivate these relationships with these agencies. We can work with them, like attempting to get land from the state because they are the ones that are mandating renewable standards. So, it is a challenge but also an opportunity.

Trent: One thing I would add is that when you are doing the cost analytics, it may look expensive

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Brainerd Public Utilities Solar

 $Continued\ from\ page\ 8$

now, but look back 10 to 20 years at your past cost increases, and apply that logic into the future. This may be the cheapest energy you will get in 20 years right now. Like Todd said earlier, it now looks like a great deal, but it was a hard sell originally.

MMUA: Brainerd's renewable infrastructure looks pretty impressive at this point. How much of your power is coming from local renewables at this point, and how high could that number get?

Todd: The first goal is based off of what the state is dictating,

that is our number one goal. If hydro is running and with the two solar projects, that is about 16-17 percent of our total needs. We would still be buying 80-some percent from the power provider. To get the next solar project, that would add 5 percent to our renewables. The question is, how do you get the most bang for your buck without taking up 500 acres?

Trent: Battery storage. We are waiting to see the performance and longevity of the newest battery technology. Then we'll be able to make an informed decision about our future equipment.

Todd: Since we have the hydro, it could in theory charge the batteries from the solar project, if we could analyze it.

Trent: We could then shape some of our demand—we could charge the battery with all of our renewables.

Todd: We were trying to be forward-thinking; we started the projects before the mandates, we knew that we were going to have to do it, but at the end of the day it ended up as very good timing for us.

FERC's Phillips says they won't wait to expand transmission

Willie Phillips, Acting Chairman of the Federal Energy Regulatory Commission (FERC), says that FERC intends to push ahead with its plans to advance interregional transmission capacity irrespective of new requirements in the new debt ceiling law.

After passage of the bipartisan agreement, which was signed into law by President Joe Biden on June 3, advocates of expanded transmission capacity raised concerns that it would slow or halt the pace of transmission development.

The new law requires the North American Electric Reliability Corporation (NERC) to study the necessity of more transmission capacity between regions of the country, giving them 18 months to complete the work. Once NERC's study is complete, the Federal Energy Regulatory Commission (FERC) can take as much as a year to seek public comment and file a report with Congress. Thus, the entire process could stretch approvals for expanded transmission out to 2026 if FERC halts its activities until the process plays out.

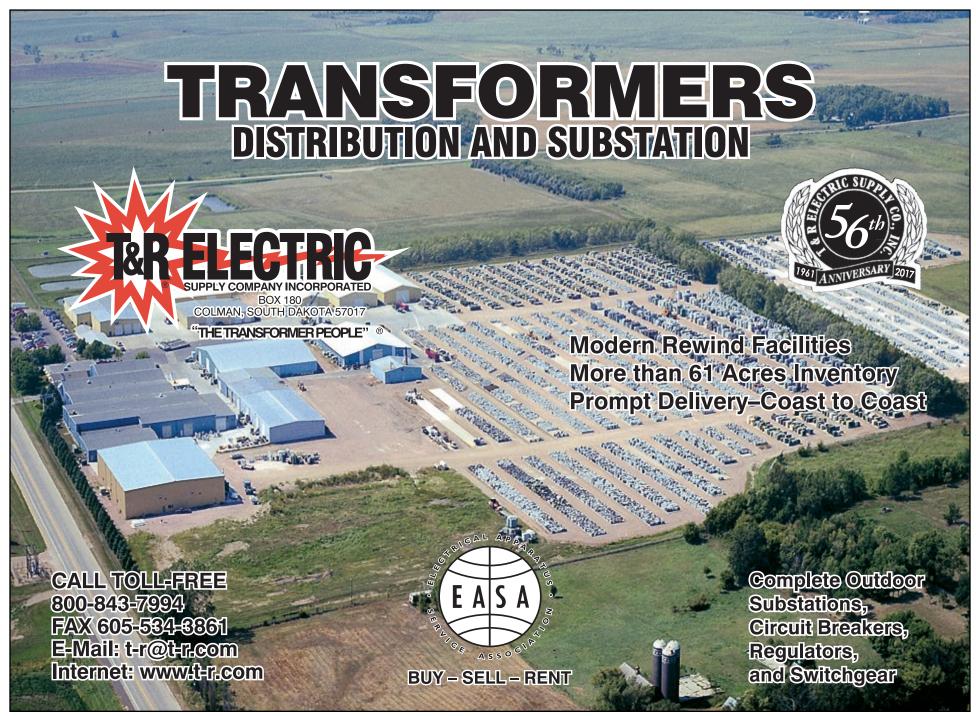


Phillips told the House Energy and Commerce Committee's subcommittee on energy, climate and grid security that FERC did not intend to stop its work expanding the transmission grid. "These two proceedings can move forward in parallel. I am not aware of any requirement that we wait. It is not my intention to wait."

Language that would have required increased transfer capacity was dropped from an earlier version of the debt ceiling bill. Senator John Hickenlooper, D-CO and Representative Scott Peters, D-CA, said they plan to introduce a bill requiring that regions be able to transfer at least 30 percent of their peak loads to other regions if necessary.



Brainerd's solar arrays consist of almost 14,000 solar panels



Emergency Preparednessand Restoration Conference

MMUA member utilities met in St. Cloud on July 13 and 14 to discuss emergency preparedness and mutual aid activities both at home and in locations across the United States.

Among the topics discussed were this year's diverse mutual aid activities, emergency preparedness for hometown utilities, and how to improve mutual aid activities. With the lessons learned and new ideas shared, the conference helped prepare attendees to respond to disasters even more efficiently.



Mike Willetts of MMUA kicked off the 2022 Mutual Aid Review.



Jay Reading of MMUA shared all the fun he had on the challenging mutual aid event he experienced in Wisconsin.



Jarrod Luze of DGR Engineering discussed the latest in mapping and how it can help a community be ready in case of disaster.



Mike Willetts and Cody Raveling lead a discussion.



Attendees included utility staff and management as well as many experienced mutual aid responders.

Impacts of elections

Continued from page 1

for aiding in the number of progressive voters who turned out for the 2022 election. This is not to say other issues weren't important in the election, but there is no denying that the 2016 federal election set in motion consequences that had impact on the outcome of the 2022 state election.

Another key factor in the 2022 state election was redistricting. With population increasing in the metro area and decreasing in rural areas, new boundaries resulted in more metropolitan districts, giving Democrats slightly better odds of winning seats.

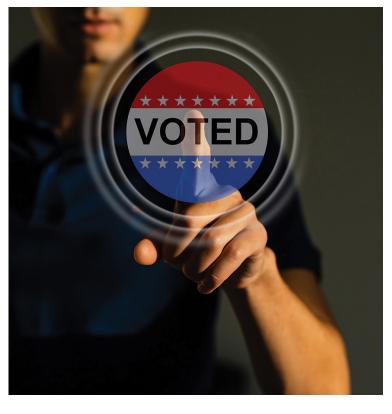
Seniority has a lot to do with leadership roles. The longest serving DFL members of the legislature tend to be from Minneapolis, St. Paul, and the first-ring suburbs, so it is not surprising that caucus leaders and key committee chairs were all from the metropolitan area. Likewise, it is not surprising that areas outside the metro are now almost exclusively represented by Republicans, a fact that has been trending for many years.

Looking back, it is not surprising how aggressive the Democrats were on so many issues. With full control over the legislative process, experienced members holding key leadership positions and gavels, and a vocal base of support coming from special interest groups advocating on issues ranging from environmental protection to unions, as well as the knowledge that the 2024 election could see the return of the House to Republican control, the session we saw was predictable in many regards.

Under the current makeup of the legislature, and with most municipal electric and gas utilities currently represented by Republicans, it would be easy for utilities to surrender to more and more mandates, and for MMUA to forgo a legislative agenda. But such a reaction would be the wrong approach.

A careful look back at the 2023 Regular Legislative Session reveals that MMUA had successes and is positioned to have more, but certain actions by members will be key to future accomplishments.

At first glance, Chapter 7 of the 2023 Session Laws, commonly referred to as the 100 percent bill for its mandate that all power come from carbon-free sources by 2040, may appear to be something utilities would hate. Yet no utility, whether investor-owned or communityowned, testified in opposition to it in the Senate. Granted, there was more neutrality than support from the utilities, and party-line votes moved the bill through each chamber, but the fact that many concerns were heard and addressed, at least to



a point, and a promise was made to continue dialogue as implementation of the Act begins, gave hope that future amendments desired by the industry could at least be possible. In the meantime, the bill was not changed to a 2035 compliance date, a compromise on large hydro systems counting towards compliance was reached, and RECs were recognized as a means of compliance. As it turns out, the mandates largely fall on the power agencies and not individual municipals. In addition, the Department of Commerce has done a great job so far in working with MMUA and others in developing the first steps of compliance as required in a docket opened by the Minnesota Public Utilities Commission pursuant to the Act.

Chapter 24, the first of a few bills aimed at providing State dollars for use as matching funds for federal grants under the Inflation Reduction Act and the Infrastructure Investment and Jobs Act, enjoyed strong bipartisan support in the House and some level of bipartisan support in the Senate when it was passed.

Chapter 39, a bill to provide funding for the removal of lead water pipes, enjoyed nearly unanimous support on its way to the Governor.

Chapters 71 and 72 combined to be this session's capital investment (a.k.a. bonding) bills. At one point it appeared a "cash only" bill funding DFL-favored projects, and thus primarily metrocentric projects, was the only thing that would pass because such a bill could have been adopted by a simple majority vote. A true bonding proposal requires a three-fifths majority in both chambers and seemed unlikely for a time. In the end, negotiations resulted in a blended approach of cash and borrowing for projects across the State and for programs such as

those under the Public Finance Authority, which provides grants to cities for important water and wastewater projects.

Finally, this year's State Government Finance Bill, Chapter 62, contains a provision repealing the local government salary cap, a long-time objective for MMUA. It enjoyed strong metro-DFL support after being blocked for at least two years by a rural Republican.

So, while it is easy to see partisan bickering everywhere, and while the metro area will likely continue to grow in population more quickly than rural areas, thus gaining a little more legislative control through redistricting every 10 years, MMUA will continue to work on behalf of its members. To continue having success with our lobbying efforts, it is important for each municipal utility to do the following:

- 1. Talk to your local legislator, regardless of party or location. It is very difficult to gain a legislator's support on an issue when they say, "Well I haven't heard anything back home on that subject."
- 2. Get to know members of the other party and stress that utility issues should be non-partisan, particularly at the municipal level where good governance on behalf of citizens is what matters.
- 3. Consider inviting legislators who do not have a municipal utility in their district to come tour your facilities so they can have a firsthand understanding of the issues facing municipal utilities.
- 4. Be polite to the legislative staff. They control access to the members, and they can either help or hinder our efforts based on their control of the calendar.

Grand Rapids Public Utilities Solar

Continued from page 1



MMUA: Tell me about the wholesale electric contract conflicts with Minnesota Power (MP)? It seems like working together was a much better plan than fighting it out.

Julie: Yes, I just gave a presentation last weekend about this. In 2017, when we initially did a request for information (RFI) for a consultant, MP was one of the companies that submitted a proposal. We did not choose them. We worked through the 2-year process with another consultant. At the end of 2018, our feasibility led us to decide not to do subscription-based community solar, but instead to install a utility-scale solar plus battery storage project.

Just prior to Commission action to move forward, MP stepped in and said our wholesale contract doesn't allow us to purchase solar from another provider. We had two paths, fight that opinion legally, or choose to work with them. We chose to work with MP. From then on, they were onboard with the vision and values we wanted, and they agreed to work with our initial consultant and ICET advocates. From 2019 forward, MP led on the RFPs and Power Purchase Agreements (PPAs). Though we hadn't envisioned this arrangement, I feel that if we had not joined forces with

MP, we would not be where we are today. MP was able to provide the horsepower from a staffing and expertise perspective that GRPU and ICET didn't have.

MMUA: What does MP get out of the bargain?

Julie: More than once during the project, the conversation included "fox in the henhouse" scenarios since we are working with MP on a project that allows us to pay them less. So, transparency was extremely important.

For MP, they recognize that storage is up-and-coming technology, and they could "pay tuition" to learn about it, or they could develop a model for a local project and learn from that. Our agreement is that we don't pay MP any fees for the load management modeling and dispatch as long as we have a wholesale contract with them. This helped reduce the overall project costs as well.

MMUA: What are you learning from the load management modeling?

Julie: It is exciting to see what we're learning as the solar plus battery dispatch modeling helps us better analyze our AMI data. We see our residential peaks are not as homogenous as we thought. We have many double

peaks, and even noon peaks on some days. It is causing us to pay more attention to our loading as a community and helping us better anticipate our local load management response.

MMUA: When did the solar array start operation? The ribbon cutting was delayed due to weather I believe.

Julie: The solar array began producing in April 2022. The ribbon cutting was delayed twice. Originally scheduled for May 2022, we involved students from the local community college engineering department who planned the event and built a scale model diorama of it. Unfortunately, we still had snow on the ground in May, so we rescheduled it to later that summer. But then we had construction issues in July of '22 and our battery wasn't operational. The battery finally came online in October of '22 so we delayed the ribbon cutting until June 2023 when we gathered the project partners to celebrate.

MMUA: What is the lifespan of the solar array and the battery?

Julie: We have a 25-year agreement on each. We pay only for the solar produced, so if the panels are never changed out or changed out several times, it is not our cost or responsibility. Really, it's in the vendor's interest to keep it functioning well so they get paid for their investment. On the battery, we are contracted to receive a set amount of annual discharge capacity, and the vendor is obligated to meet that demand.

MMUA: Tell me a little bit about the pollinators on site.

Julie: Part of the ICET's original vision was to not degrade any of the natural habitat on the facility site. The project design avoided two wetlands and included three different seed mixes composed of native wildflowers and grasses,

which provide deep-rooted vegetation to reduce erosion. Last year we had an individual bring in bees who used the site as a pollinator garden. That bee vendor gave us two gallons of the honey produced.

The 15-acre site is another really neat thing about the facility. It is in the B zone of our local airport, so the project didn't hinder economic development because of the airport zoning building restrictions. It is also city-owned, so we didn't have to pay for the site. We had to do a Federal Aviation Administration glare analysis, so we had to slightly adjust the angle of the panels, but the cost avoidance of purchasing land was worth it.

MMUA: Could the solar plus battery storage project see a future expansion?

Julie: The short answer is: "Give us a minute, please!" It took us nearly seven years to get this project completed. However, people are saying, "What's next?" and we do have more available land. So, as we continue to learn from the load management

do we expand solar? Do we add more battery? We're not sure yet, but we're open to it if it makes sense.

MMUA: Looking back on this process, what have been some of the more challenging or interesting parts of it?

Julie: I think the single biggest challenge was working with our wholesale provider on solar and battery contracts that extend beyond the life of our wholesale contract. We insisted that we make sure the two stay separate. The contractual agreements, because of the partners involved, were pretty complex.

For me personally, and for GRPU, a big challenge was balancing the original vision of the ICET advocacy group with the feasibility of what MP showed we could make work. We certainly have a different project than when we began back in 2016, but we were able to double the original solar array size by adding the battery storage component, and we ended up with a pretty cool project.











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Grand Rapids had a beautiful day for a ribbon cutting, with Grand Rapids Public Utilities Commission President Tom Stanley (5th from right) doing the honors. Julie Kennedy is 3rd from right.







June regional meetings warmly received, more scheduled for the fall





In June, MMUA hosted a series of regional meetings with educational sessions covering accident prevention and interactive sessions for utility commissioners and elected leaders.

Both sessions were well received by members who traveled from several cities across southern Minnesota to network with each other and interact with MMUA staff.

The accident-prevention workshop was led by Assistant Director of Education and Outreach Cody Raveling. The workshop was a lively examination of the process of instilling a safety culture within the workplace, with participants sharing success stories and cautionary tales of incidents they had experienced.

Later in the day, MMUA CEO Karleen Kos and the government relations team hosted a gathering for utility leaders and commissioners. The "Interacting on the Issues" sessions focused on government relations and local control topics, and they provided attendees the opportunity to network with others facing similar challenges. Attending commissioners were eager to participate and delve into the details of the impact of the 2023 legislative session. Feedback on the sessions was highly positive, and attendees stated they would encourage other utility leaders to join in future meetings.

MMUA is hosting additional meetings throughout the state. If you are interested in attending, check the calendar on page 20 or visit mmua.org/events/calendar for more information.

European Union produces more wind and solar in a month than fossil fuel generation for the first time ever

According to a report from the energy think tank Ember, wind and solar produced more energy than fossil fuels in the European Union (EU) in May 2023, the first time that this has happened on a monthly basis.

May 2023 saw 31 percent of the EU's power come from wind and solar. Solar generated 14 percent, with wind generating 17 percent of the total. Fossil fuels gener-

ated their lowest percentage in modern history at 27 percent of total energy output. As a part of the fossil fuels total, coal also hit a record low with only 10 percent of generation coming from the fuel source.

These trends are expected to continue, as widespread adoption of renewables across Europe drives further decreases in fossil fuel usage. MMUA
announces
2023 Tom Bovitz
Memorial
Scholarship
recipients



The Tom Bovitz Memorial Scholarship Award program was created as a public relations tool to increase awareness of the impact of hometown utilities and create goodwill in Minnesota's municipal utility communities.

Each year, MMUA awards \$5,000, split into four prizes, to essay contest winners who plan to attend a post-secondary educational institution. The 2023 recipients are:

- First Place: Ella Westlund, Alexandria Public Utilities
- Second Place: Cadin Pederson, Hawley Public Utilities
- Third Place: Alexis Flaten, Willmar Municipal Utilities
- Fourth Place: Malayna Asmus, Mora Municipal Utility





A needle in a haystack – The media relations journey of a diamond ring found in a wastewater treatment plant

By Nneka Onah and Christine Stevens, Metropolitan Council Exclusive to The Resource

Discovering the diamond ring

In the field of wastewater treatment, a surprise in day-today operations is rarely a positive event. This spring, the Environmental Services (ES) division of the Metropolitan Council, responsible for the regional wastewater treatment system serving 111 customer cities and townships in the Twin Cities metro region, made an unexpected discovery at one of their wastewater treatment plants that sparked months-long national media attention and greatly increased the visibility of the organization.

In mid-March, three maintenance staff members at the Rogers Wastewater Treatment Plant spotted a glimmer while examining a piece of equipment that was having issues in the influent process. Removing grits and solids from the surrounding area revealed a banged-up diamond ring that looked like it had traveled the sewer system. Surprised by the discovery, the crew wanted to get the ring back to its rightful owner.

John Tierney, maintenance manager, reached out to communications coworkers asking if social media or other external communication channels could be used to search for the ring's owner. A series of events quickly followed that would not only reunite the ring with its owner but also attract considerable media attention to explore the unusual story. The complex and agile public relations response reveals important lessons for wastewater treatment plants and other utilities who might encounter similar media attention and public relations events.

Navigating the process

Reuniting the ring with its owner was a collaborative effort of ES and media relations staff, local and national media outlets, and the public. Local outreach efforts began with a Minnesota Public Radio interview on March 24. Tierney discussed the discovery of the ring and provided information for potential ring owners to contact ES. The interview prompted an initial 50 calls to the general inquiry telephone line.

On April 5, a media event was held at the Metropolitan Wastewater Treatment Plant, to make it more convenient for media than the Rogers Plant 30 miles from the center of the Twin Cities region. The larger scale of the Metro Plant provided more space for the event and demonstration of conveyer belts and bar screens that catch debris. Although Tierney conveyed the full key message about what not to flush, success in coverage was limited to "There are only three things you should flush, and a diamond ring isn't one of them." One reporter informed ES staff that she changed her practices at home after learning what not to flush at the first media event.

Six news outlets attended the media event announcing the found ring, including CCX Media, FOX 9 News, KARE 11, KSTP TV, and WCCO TV. The increased media coverage drastically increased the public visibility of the ring search and fueled public interest. "When we did the TV hit, we had 300 calls - it was a huge increase," says Information Specialist Kai Peterson. Unable to keep up with incoming calls, ES launched an online inquiry form where people provided details of their missing ring and could upload pictures.

On April 16, a Rogers resident reached out suspecting the ring could be hers. The woman's daughter had told her about seeing a TV news story. After reviewing her submitted photos, ES staff thought they might have a match. Two independent jewelers examined the ring and photos and agreed it could be a match. ES worked with their

legal counsel and created an affidavit for the ring owner to sign upon receiving the ring, to protect both parties against conflicting claims of ownership. On May 8, a meeting with the potential ring owner confirmed a match.

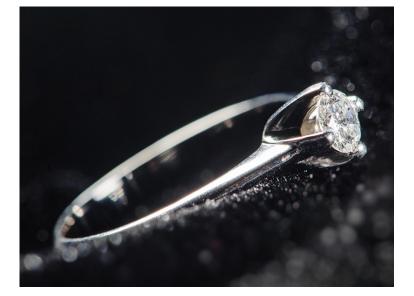
The diamond ring had been missing for more than 13 years, having been flushed down the toilet two months after being given as 33-year wedding anniversary gift. The owner assumed it would never be found. Her husband, who owns a drain and sewer company, had snaked the sewer line trying to recover the ring. Ironically, the ring was lost at their home on Diamond Lake Road.

Now that the media was hooked on the story, a second media event took place on May 17 at the Rogers Plant to announce the reunion of the ring with its owner. Ten media outlets attended the final news conference, including CCX Media, Crow River News, FOX 9 News, KARE 11, KSTP TV. MPR. Star Tribune, WCCO Radio, and WCCO TV. ES set ground rules about asking questions and speaking directly with the ring owner to ensure her comfort and manage expectations. This second media event, which brought closure to the story by introducing the public to the ring owner, was ultimately the biggest draw of national and international media coverage.

Reflecting on key takeaways

In total, ES received approximately 350 emails and 400 calls inquiring about the diamond ring. The combined print, radio, TV, and online coverage reached an audience of approximately 1,555,708,793. The value of the media coverage, from 523 news clips, was estimated at \$24,336,272.

From the initial media pitch to the return of the ring, the experience offered many media



relations takeaways. Our maintenance staff brought forward the idea of leveraging media to find the ring's owner. We needed to better spotlight all these staff, not just the one being interviewed, to recognize and encourage innovative thinking.

Having well-connected media relations staff, who could make appealing media pitches and coordinate with others internally to host media events, resulted in strong local media coverage. Local coverage led to national and even international coverage.

We learned that it is critical to anticipate the magnitude of responses if an item of value is announced in the media. And the importance of having a plan in place before contacting the media. Preparing internal staff for the possibility of a large-scale public and media response and having a robust phone system and web intake form in place are crucial. Once the press shared news of the ring's discovery, the response from the public was both quick and unrelenting as people rekindled hope of reuniting with lost wedding and anniversary rings. A caller from Canada inquired because her husband who had changed airplanes at MSP had lost a ring.

Another takeaway is that

someone on the media team should be knowledgeable of the safety requirements in any facility hosting members of the press. They can help ensure that employees interacting with the media maintain safety protocol, both on and off camera. They can also prep the media on how to dress appropriately in an industrial setting and distribute the necessary personal protective equipment (PPE), such as safety glasses.

From the initial discovery of the ring to responding to the public, ES staff consistently demonstrated integrity and commitment, core values of ES. The three maintenance staff wanted to reunite the ring with its owner. Numerous members of the public who inquired about their lost rings noted that although they were disappointed their ring was not the one discovered, they were appreciative of the compassionate response they received from ES staff.

While the missing ring only had one owner, millions of people learned about the value of wastewater treatment and the value of the staff who support those services. These messages are far more enduring than finding a needle in a haystack.

Gas utility plans to be the first in the United States to build networked geothermal system

On June 12, Eversource, a large gas utility in New England, broke ground on a networked geothermal heating and cooling system in Framingham, Massachusetts.

The system is considered "networked" because it serves a neighborhood instead of single homes and businesses. In this pilot project, 37 buildings will be

connected to the system.

Each building will have a service pipe that will link it to the main service line that runs through the neighborhood. This line will be connected to vertical lines that may go as far as 500 feet into the ground. The shared system will allow for economies of scale not possible with individual geothermal systems.

The project is expected to cost \$14.7 million, with costs to be spread across Eversource's customer base. Eversource sees the project as a way to maintain its customer base into the future by doing what utilities do best: providing important services with economies of scale that are difficult or impossible to obtain for individual consumers.

EPA funding awarded to Jackson, Mississippi to help resolve city's water crisis

On June 6, the United States Environmental Protection Agency (EPA) announced the City of Jackson, Mississippi will receive \$115 million in funding to assist in resolving the city's water crisis.

This is the first award out of a total of \$600 million in disaster supplemental funding for Jackson in the 2023 federal budget.

The first \$115 million will be used by the Jackson Public Water System to start repairing the city water system.

Problems with the Jackson water system first became widely known after the system failed in the summer of 2022. Flooding on the Pearl River caused the O.B. Curtis Water Treatment Plant to shut down, leaving most of the city without drinking water.

Blended hydrogen-burning gas turbine enters commercial operation

On June 7, JERA Americas, which is a joint venture of Tokyo Electric Power Company and Chubu Electric Power of Japan, began operation of an existing but modified gas turbine at the Linden Cogeneration Facility in Linden, New Jersey.

The turbine burns a blend of natural gas and hydrogen-containing off-gas from the nearby Bayway Oil Refinery. In this way, the turbine takes a local refining byproduct and turns it into useful energy.

JERA estimates that hydrogen co-firing of up to 40 percent by



volume will be possible. This project will help reduce carbon emissions at the power station and the refinery. The total output of the six gas turbines on-site is 972 megawatts (MW), meaning the output of the modified Unit 6 should be around 160 MW.

New MPCA study reports the true costs of PFAS elimination in Minnesota wastewater

The Minnesota Pollution Control Agency (MPCA) published a report on June 6 that for the first time estimated the total cost of cleaning up per- and polyfluoroalkyl substances (PFAS) in wastewater, effluent, and landfill leachates.

The price tag will be an estimated \$28 billion over 20 years.

The in-depth study saw Barr Engineering and Hazen and Sawyer examine more than 50 PFAS separation and destruction technologies to lower PFAS levels below current reporting levels. Of those, 13 technologies were examined in-depth.

Different technologies were recommended for eliminating PFAS in varying types of waste streams. For example, in the area of municipal biosolids, supercritical water oxidation and pyrolysis and gasification were the best methods to destroy PFAS.

The high cleanup costs give emphasis to the importance of keeping PFAS out of waste streams in the first place. In a statement, MPCA Commissioner Katrina Kessler said,

"The exorbitant costs associated with removing PFAS from community wastewater systems



underscores the need to address PFAS pollution long before it gets into the waste stream. At no fault of their own, wastewater treatment facilities receive PFAS from a variety of sources, and they cannot carry the burden of cleaning up the pollution. We must all focus on preventing PFAS from entering the environment in the first place."

Duke Energy announces \$2.8 billion commercial renewable business sale

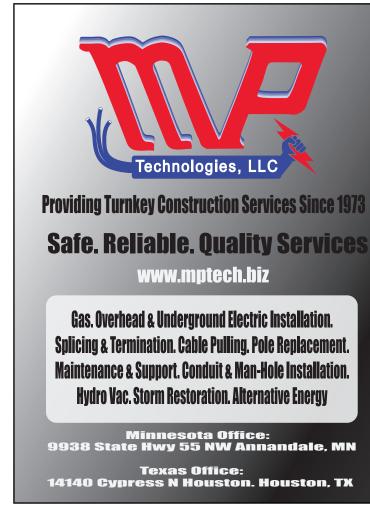
Charlotte, North Carolina-based Duke Energy announced on June 12 that it would sell its utilityscale commercial renewables business to Brookfield Renewable for \$2.8 billion.

Brookfield Renewable owns and operates renewable power assets across North America, Africa, Asia, and Europe.

Duke said that it is going forward with the sale in order to become a "purely regulated company" and focus on that side of their business.

Assets involved in the sale include more than 3,400 megawatts (MW) of utility-scale solar, wind, and battery storage. The sale is expected to close by the end of 2023.

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Power outages impact 80,000 people in the Twin Cities

Power outages caused by high winds impacted nearly 80,000 people in the Xcel's Twin Cities service area on the afternoon of June 24.

The outages were caused by winds in excess of 50 miles per hour that caused equipment damage.

Xcel experienced around 1,000 outages around 1 p.m. but had resolved most of them by the end of the day.





Destruction of Ukrainian hydropower dam precipitates mass evacuations, more fears about Zaprorhizia nuclear plant



On June 6, the dam of the Kakhovka Hydroelectric Station in Nova Kakhovka, Ukraine, was largely destroyed by explosions of an unknown source.

The destruction of the dam

caused large-scale flooding downstream from the dam's Kakhovka reservoir on the Dnieper River. The complex is in Russian-controlled territory.

Ukrainian President Volodymyr Zelensky called it "the largest man-made environmental disaster in Europe in decades."

The dam's water level was at an all-time high when it was breached. Evacuations downstream from the reservoir began almost immediately after. Experts predict more than 40,000 people may be impacted by flooding.

Also of concern is the water supply for the Zaporhizia nuclear power plant, which is provided by the reservoir. An adjacent cooling pond is estimated to be able to provide water for essential core cooling for several months, but the International Atomic Energy Agency noted that cooling pond must be protected at all costs.

The cause of the explosions is still under investigation, with both sides blaming each other. The long-range impacts of the breach could be significant, including crop failures, land mine detonations caused by flooding, and environmental impacts.

Report details home and utility-scale solar growth

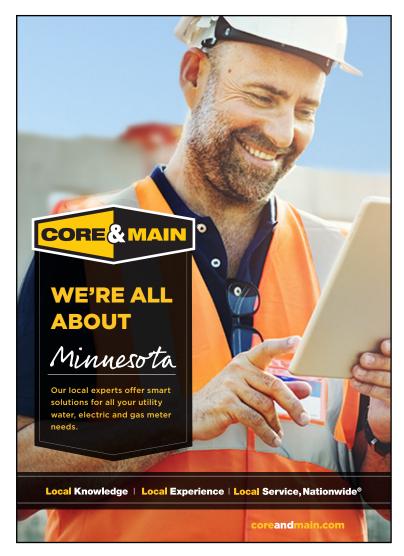
A new report from SolarPower Europe, an industry trade group, outlined the strong growth of home, and utility-scale solar in 2022, as well as similarly promising trends going forward.

Global rooftop solar capacity grew by 49 percent in 2022, rising from 79 gigawatts (GW) in 2021 to 118 GW in 2022. By the end of 2023, capacity is expected to reach 159 GW, which is a 34.7 percent increase from 2022.

Total installed capacity rose to 1,177 GW in 2022 from 940 GW the year before, a 25 percent increase. Projected total installed capacity for 2023 is estimated at 1,518 GW, or a 29 percent, increase from the year previously.

The report noted that for the first time, the levelized cost of electricity (LCOE) for solar went up, largely because of rising inflation and supply chain issues. However, it is still cheaper to produce electricity from new solar builds than from fossil fuels or nuclear sources.











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New material may revolutionize solar energy industry

A new class of materials described in a paper published in the journal *Nature Chemistry* on June 12 may lead to new uses in the solar energy field as well as in other technologies such as night vision.

The material, developed by a team of researchers at the University of Texas-Austin, is made of silicon nanoparticles and organic molecules. Because it can effectively move electrons between its organic and inorganic components, it can perform actions such as absorbing lowenergy light and transforming it into higher-energy light. This could create solar panels that are much more efficient.

"Upcycling" light may also have interesting applications for night vision and other kinds of light sensors used in a variety of applications.



UN says global development goals related to energy are not being met

A report released on June 5 by the United Nations (UN) indicates the rate of current progress is not enough to meet the 2030 global targets.

Sustainable Development Goal 7 (SDG 7) calls for access to affordable, reliable, sustainable, and modern energy for all, and includes the sub-goals of improving energy efficiency, increasing the share of renewables, and diversifying the energy mix while ensuring affordable energy for all. SDG 7 was adopted in 2015.

The report shows the world is not on track to achieve any of the targets set forth in SDG 7. In some areas, like renewable energy, there has been substantial progress, but even these are not enough to meet SDG 7's goals.



Universal access to electricity and clean cooking solutions are still out of reach as well. The UN calculates that electricity access must grow at twice its current rate to reach everyone. At current rates, 660 million people worldwide will still lack electricity, down from the 1.1 billion who lacked electricity in 2010.

In the area of clean cooking—cooking that doesn't damage the environment and/or human health by using modern stoves

and fuels—1.9 billion people would still be without it in 2030 at current rates. This compares to 2.9 billion people worldwide who lacked access to clean cooking in 2010.

The biggest theme, as illustrated by the numbers, is that significant progress has been made in the past decade. Yet much more needs to be done to improve the quality of life of millions of the world's citizens.

American wind and solar generate more power than coal in first five months of 2023; first five-month period in history

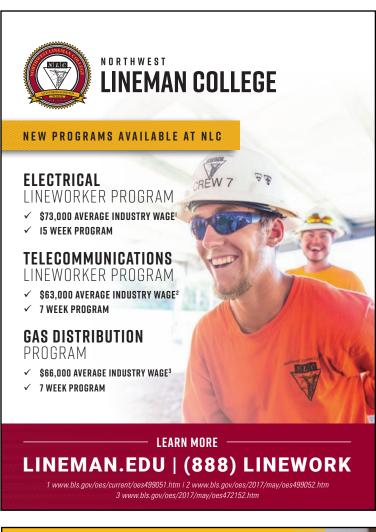
According to federal data, American wind and solar produced more electricity than coal in the first five months of 2023.

This is the first five-month span that has ever happened.

Coal generation has continued to be affected negatively by a variety of short-term and long-term trends, including low natural gas prices and the increased competitiveness of renewables. The closure of older coal plants at a rapid rate has also greatly

impacted total coal generation capacity. Since 2022 began, 14 gigawatts of coal capacity, or 7 percent of the total, have been retired.







FERC finalizes reliability rules

In mid-June, the Federal Energy Regulatory Commission (FERC) finalized two new rules that will help the grid become more reliable during severe or extreme weather.

The first rule directs the North American Electric Reliability Corporation (NERC) to develop reliability standards related to transmission system planning for extreme hot and cold weather.

The second rule directs transmission providers to submit reports on how they conduct weather vulnerability assessments.

Both rules take effect 90 days after their publication in the Federal Register.



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Graco, Inc. plans to double the size of its manufacturing operations in Anoka, which will consist of a new \$45.6 million, 176,000-square-foot building next to its current building. The project falls within Graco's Lubrication Equipment Division. The new building will open in the summer of 2024.

Bagley's Indigebox has been chosen as one of three semifinalists for the MN Cup, a competition designed to help innovative small companies get the exposure and funding they need to grow. Indigebox creates subscription boxes for early childhood education programs that include materials for Native American children.



Benson, Litchfield, and Montevideo

held marching band parades in early June in which bands were judged on their performances. Montevideo's third-annual "Fiesta of Marching Bands" occurred on June 12, Litchfield's fourth-annual "Parade of Bands" occurred on June 13, and Benson's 36th annual "Pioneerland Band Festival" occurred on June 14.

Detroit Lakes has chosen seven artists whose work will decorate **Detroit Lakes Public Utilities** power boxes with original artwork this summer. Their artwork will be printed on vinyl wraps that will then be applied to the power boxes. The wraps should last for several years.

East Grand Forks has received approval from the Minnesota Legislature to hold a vote on a proposed local sales tax. The 20-year, 1 percent sales tax would go to improve city recreation facilities. A vote is planned for November 2024.

Elk River used monies from the American Rescue Plan Act (ARPA) to pay for wastewater lift station grinders to grind up solids in wastewater. This will help resolve issues coming from "flushable" wipes that have been impacting the lift stations.

A small fire occurred in Fosston on the evening of June 18 when a worker backed over a gas line on the north side of the Essentia Health Fosston Clinic. No injuries occurred, and the fire was contained to the gas line. Fosston Fire and Rescue, McIntosh Fire Department, Fosston Municipal Utilities, Fosston Police Department, Minnesota State Patrol, and Polk County Sheriff's Department all responded to the scene.

Moorhead Public Service (MPS) received public comment through June 27 about their



surface water intake protection plan for the Red River of the North. MPS and the Minnesota Department of Health contributed to the plan to mitigate the levels of different contaminants that can get into the Red River. The Red River provides 75 to 80 percent of the water used by city residents.

Rochester Public Utilities experienced a short power outage on the morning of June 26 that left customers without power for about half an hour. Approximately 2,400 customers were affected. The cause of the outage was a squirrel.

Willmar approved a memorandum of understanding on July 3 that

will allow the Minnesota National Guard to acquire 40 acres in the Willmar Industrial Park at no cost for the future construction of the Willmar Readiness Center and a field maintenance shop. The new armory could be built in as little as three years, although it could take longer given various factors.





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At the Arab-China Business Conference held in Riyadh, Saudi Arabia on June 11 and 12, Saudi Energy Minister Prince Abdulaziz bin Salman stated to a reporter that Saudi Arabia wished to cooperate and collaborate with China, instead of competing, in areas such as trade and energy.

The Independent reported that wastewater customers across England are refusing to pay their bills after a series of discharges have left waterways polluted and customers upset with how companies are managing their wastewater facilities.

Xcel Energy announced in mid-June that it would no longer be funding a microgrid project in Minneapolis. The project was to consist of three solar-powered microgrids with batteries that would be located on the Regional Apprenticeship Training Center in North Minneapolis and the American Indian Center and Sabathani Community Center in South Minneapolis. Xcel had originally planned to invest about \$9 million in ratepayer funds in the project. Xcel said that it changed its plans due to higher-than-expected inflation and the resulting higher project costs.

Dubai, the largest city in the United Arab Emirates, has approved a \$21.8 billion sewerage plan that will create a system able to serve the city years into the future. Dubai, which sits on the coast of the Persian Gulf, had only 59,000 residents as late as 1968. The city now has over 3.3 million residents.

On June 20, Pakistan and China signed an agreement that China would invest \$4.8 billion to build a new nuclear power plant in the Pakistani province of Punjab. The plant, which will be called Chashma 5 (the 5th reactor at the existing Chashma nuclear power site), will produce 1,200 megawatts of power. Construction is expected to begin immediately.

Texas' power grid officially set a new all-time record for energy demand on the afternoon of June 27, when demand reached 80,875 megawatts (MW). The previous record was 80,148 MW. The Electric Reliability Council of Texas (ERCOT) said the grid had 6,983 MW of operating reserve power available when

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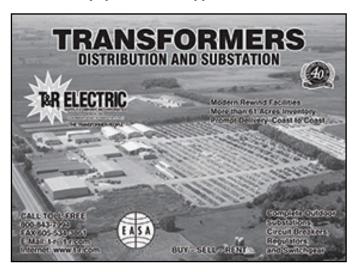


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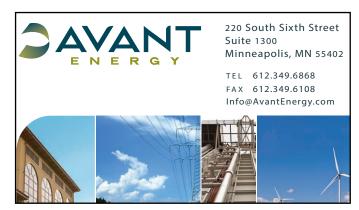
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the record was reached—another sign that battery storage and virtual power plants are beginning to help backstop the grid.

A simulated nuclear incident exercise took place on June 27 at the Monticello Nuclear Power Plant. Field exercises involving multiple groups of emergency responders and plant operators participated in the exercise.

In early July, the North American Electric Reliability Corporation (NERC) reported that if temperatures spike in North America this summer, up to two-thirds of the continent is at risk of energy shortfalls during periods of high electricity demand.

On July 5, the Department of the Interior's Bureau of Ocean Energy Management announced it had approved plans for the construction of the Ocean Wind 1 project, which will be located about 13 miles southeast of Atlantic City, New Jersey. The wind project will generate 1,100 megawatts of energy. This is the third approval by the Biden Administration of commercial-grade offshore wind: Vineyard Wind off of Massachusetts and South Fork Wind off of Rhode Island and New York preceded this project.

Japan's plan to release treated wastewater from the Fukushima nuclear plant disaster has met with controversy throughout Asia. Hong Kong plans to ban more Japanese products if the release goes ahead, and North Korea called on the world community to stop the release. The United Nations' International Atomic Energy Agency (IAEA) says that Japan's plan is safe. The release is expected to begin sometime this summer.

A report from Wood Mackenzie, a global research and consulting group, said on July 10 that a proposed \$5 billion gas pipeline linking gas fields in the Barents Sea in Norway could be extremely helpful in reducing Europe's dependence on liquified natural gas imports.

The Organization of the Petroleum Exporting Countries (OPEC) Secretary General Haitham Al Ghais said on July 11 the group predicts global demand for all forms of energy will rise by 23 percent through the year 2045.



New Energy Department roadmapleans on hydrogen to cut emissions

A new Energy Department roadmap released on June 5 sets forth a plan for reducing American emissions in 2050 by 10 percent compared to 2005 levels by using hydrogen to make up the difference.

Hydrogen is a particularly helpful fuel in decarbonizing certain energy-intensive processes such as those found in the steel and concrete industries. To bring this about, the roadmap focuses on three strategies. The first is to strategically deploy clean hydrogen in processes that are particularly carbon-polluting. The second is to make clean

hydrogen more affordable through a series of efforts known as the "hydrogen shot," a name that is a riff on the "moonshot" of the 1960s. The goal is to decrease the price of clean hydrogen to \$1 per kilogram by 2031. The third is to develop regional hydrogen hubs and ramp up production of hydrogen for widespread use.

The roadmap also offers program targets related to hydrogen costs, electrolyzer (machines that produce hydrogen) capacity and costs, and the development of hydrogen hubs. The Department of Energy will drive these timelines with funding, the

creation of standards, and the development of hydrogen infrastructure.

The use of hydrogen will be particularly important as easier-to-decarbonize areas of the economy rapidly evolve to carbon-neutral processes over the next 30 years. Once this low hanging fruit has been converted, it will be essential to find cost-effective ways to reduce emissions from the more difficult industrial processes that have a significant overall impact on the environment.

Space-based solar power transmitted to earth for first time



A group of researchers based at the California Institute of Technology announced on June 1 that scientists had for the first time successfully sent solar power from space to earth wirelessly.

The electricity was collected from the Microwave Array for Power-transfer Low-orbit Experiment, or MAPLE, that was launched into space in January of 2023. MAPLE, using a transmitter array, beamed solar power from space to a

receiver at Caltech. The power was sent using microwaves.

The researchers plan to do more work in this area, as solar based in space needs no earthbased transmission infrastructure, and the sun shines 24 hours a day. The biggest challenges include making spacebased solar arrays that are cost-effective and rugged enough to last long periods of time in outer space, as well as improving transmission efficiency between space and Earth.

Willmar Municipal Utilities Commission president Bruce DeBlieck receives Missouri River Energy Services award

From the West Central Tribune:

Willmar Municipal Utilities Commission President Bruce DeBlieck was honored with the Community Service Award at the 58th annual meeting of Missouri River Energy Services, which took place May 10.

"Since Willmar joined MRES in 2018, Bruce has taken advantage of every opportunity to learn more about MRES and bring information about the value of membership in a joint action agency back to his board and community," said MRES Board Chair Vernell Roberts.

The Community Service Award was established in 2003 to recognize individuals who have dedicated many years of service to their communities, locally owned utilities, MRES and public power.

DeBlieck is in his second term on the MUC, first serving from 1981 to 1986. He served on the Willmar City Council from 1995 to 2014 and was the liaison to the commission. In addition, he participates in local and national legislative meetings to advocate for public power, and currently serves on the board of directors for the Minnesota Municipal Utilities Association.

"It's very important to recognize that there are many people like Bruce who serve in community leadership positions throughout the MRES membership," Roberts said. "They each do it for the benefit of the communities in which they live, and their selfless contributions are very deserving of this award."

MRES is an organization of 61 member municipalities in the states of Iowa, Minnesota, North Dakota and South Dakota. Each member owns and operates a municipal electric utility. MRES provides its members with wholesale electricity and a wide range of energy-related services.



Note: Bruce DeBlieck is a member of MMUA's Board of Directors.

First restart of shuttered American nuclear power plant possible

Government funding designed to prolong the life of nuclear power plants in the United States may allow for a new first: the reopening of a closed nuclear power plant.

Holtec, which owns the Palisades nuclear power station in Covert Township, Michigan, hopes to do just that. The singlereactor plant closed in May 2022 after operating since 1971.

Holtec originally had other plans for the plant, but government funds to extend the life of aging nuclear power plants caught the company's attention. Holtec has now applied for \$1 billion in funds to reopen the plant.

Palisades had previously been denied federal funds for restarting in November 2022.

Upcoming Events

Overhead School and MN Lineworkers Rodeo

September 12-15 (Rodeo on Sept. 12) MMUA Training Center, Marshall

Overhead School is an ideal venue to stay current on best practices for safety and technique while up on the lines. The Rodeo is a free competition for MMUA members featuring three events, including hurtman rescue, an obstacle course, and a mystery event. Learn more by visiting mmua.org/event/ overhead-2023. Register by August 5 for the best rate. Rodeo registration closes August 15.

Accident Prevention Workshops

August 15—Detroit Lakes August 15—Brainerd September 18—New Ulm September 19—Brookings, SD

To learn more, visit mmua.org/ events/calendar for information about each session.

Interacting on the Issues

September 18—New Ulm September 27—Grand Rapids October 3—Detroit Lakes October 4—Marshall

To learn more, visit mmua.org/ events/calendar for information about each session.

Cross-Training School

October 10-12 MMUA Training Center, Marshall

MMUA's Cross Training program excels at providing comprehensive training on the "basics" of electrical work for non-lineworker employees who may be called into service during emergency situations. Registration closes on September 25. Visit mmua.org/events/cross-training-2023 for more information.

Tree-Trimming Workshop

October 17-19
Brainerd Public Utilities

This workshop offers lineworkers a thorough overview of electrical line tree trimming. This course will stress the importance of job planning, identify common safety hazards, and cover standard precautions. Registration closes on September 29. Visit mmua.org/events/tree-trimming-2023 for more information.

For more information, see the Events Calendar at www.mmua.org or call MMUA at 763.551.1230.