

THE RESOURCE

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Hanson family makes utilities work

Involvement in the utilities industry runs deep in the Hanson family.

Dan Hanson has worked for Delano Municipal Utilities for 23 years and is currently foreman of the line crew. His children, Erin, Jacki, and Tyler have all made their careers in the utilities industry as well. Erin works for the City of Richfield as an overnight water plant worker, Jacki works at Shakopee Public Utilities as a water operator, and Tyler works at Shakopee Public Utilities as a journeyman lineman. MMUA sat down with the Hansons to learn about their family's pathways into utilities careers.

MMUA: How did each of you first get interested in utility work? Who were your mentors or influences that made you interested in the field?

Dan: I didn't really have a mentor when I entered the field. I used to work in construction, and I was on the road a lot. I missed a lot of baseball games and



(L-R) Tyler, Dan, Jacki, and Erin Hanson all work at Minnesota municipal utilities.

family time. So, I read about an opening at Delano Municipal Utilities. I applied but didn't get the job right away; they called me six months later, and they interviewed me. I did a course over four years, and I learned

on the job as well during that time. I moved through various roles, and I eventually became a journeyman lineman as my skills increased, I also became a water operator. In Delano, the linemen are required to get their water

operator license too.

Erin: My biggest mentor was my dad; like he said, he has his water operator license as well. I had a good job at the post office, but

Continued on page 4

Momentum increases for PFAS mitigation

By Bill Black

Recent decisions at the federal and state levels are driving momentum to address the perils caused by per-fluoroalkyl and poly-fluoroalkyl substances (PFAS).

The latest activities add to the extensive actions that were already underway in the work that needs to be done to eliminate PFAS in the water supply.

This article describes recent actions for some of the contamination types and provides an update on litigation that may impact local systems.

Mitigating PFAS that may travel from industrial and commercial products into living beings.

Beginning in January 2024, Minnesota law bans companies from selling food in packaging or wrapping containing PFAS. The law applies to containers used by restaurants and foodservice operators as well as to packaged food and beverages sold at retail

stores. In 2023, Minnesota set a 2025 phaseout deadline for 11 categories of other commercial products that contain intentionally added PFAS and a 2032 phaseout deadline for all non-essential PFAS-containing products. Minnesota-based 3M has announced it will stop manufacturing PFAS chemicals entirely by 2025.

Currently, some local decision makers are considering the consequences of PFAS as they move forward with projects. For example, in Blaine, expansion of the National Sports Center is on hold pending city council discussion about PFAS levels in artificial turf planned for ten new soccer fields. According to *MinnPost*, local governments around the nation are considering artificial turf regulation because of PFAS concerns.

Reducing PFAS that may be emitted into the air, water sources,

Continued on page 9

Retirements and changes mean an interesting election in 2024

By Kent Sulem

The conclusion of the 2024 regular legislative session marks, for all intents and purposes, the end of several Minnesotans' legislative careers.

By March 31, some 17 House members, including nine Republicans and eight DFLers, had announced their intended retirements. These retirees have served anywhere from four to nearly 40 years in the Minnesota legislature.

More resignations are possible. Additional legislators may still announce their retirements or resignations. For example, Sen. Nicole Mitchell, DFL-Woodbury, may choose to resign, or she may be forced from office, depending on the outcome of the criminal charges brought against her after allegedly breaking into her stepmother's home over the Passover

break. Two House members, one from each party, are leaving to seek county commissioner positions. Additionally, Sen. Kelly Morrison, DFL-Deephaven, is the endorsed candidate to succeed Congressman Dean Phillips in the third congressional district. She will have to resign if she wins, though she does not need to resign to run. Consequently, Sen. Morrison could remain in the state Senate should she lose the congressional race. And, of course, at least a few of the House members seeking re-election from both sides will lose their races, and control of the chamber depends on how many from each party are affected.

What does all this mean for the 2025 legislative session? MMUA's crystal ball is no better than yours in predicting the future. There are, however, some

Continued on page 13

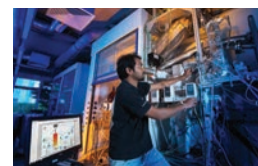
Periodicals
Postage
PAID
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Inside Stories

10 Generation School



15 Sulfur could be the thermal solar storage medium of the future



20 A new look for MMUA



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Interconnection Corner—Solar for Schools

Part 4 of a series

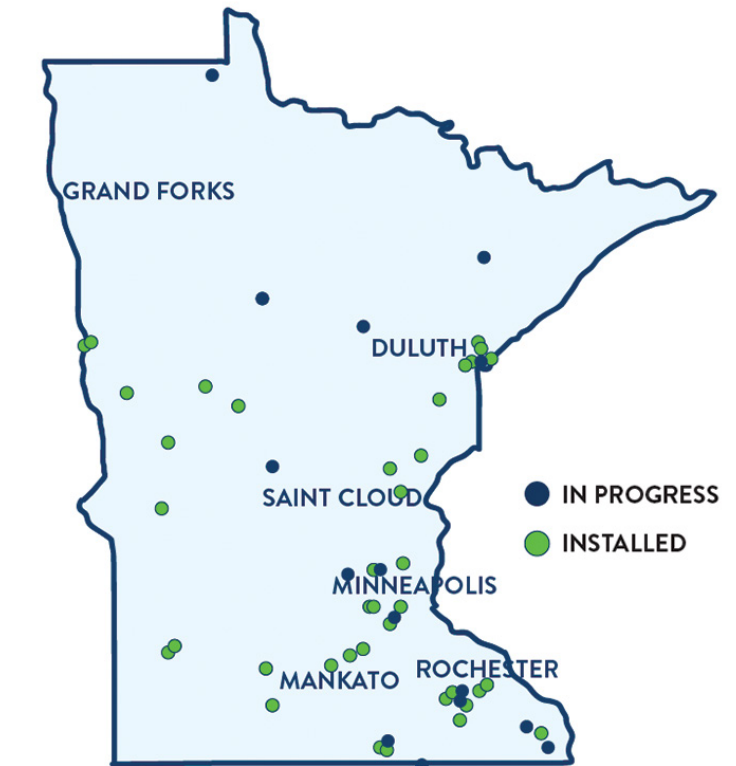
By Bill Black

Minnesota's popular Solar for Schools program provides grants for schools and state colleges and universities across the state to purchase and install solar systems.

The Minnesota Department of Commerce is currently accepting applications for a second round of grants.

The application process requires an applicant to submit a memorandum of understanding (MOU) signed by its utility stating the utility foresees no issues that would prevent interconnection of the solar system with the utility grid. MMUA supported the Department of Commerce in implementing this requirement. It allows the utility an early look at the draft agreement between the school applicant and the solar developer to ensure it is not a power purchase agreement (PPA).

Under a PPA, an entity other than the utility would sell power to the school. The document would likely not present the arrangement as a PPA even if its terms make it one. Under some creative PPA financing models, the developer or another entity would own the solar panels and charge the school for the electrical output. Such arrangements provide the benefit of allowing a non-taxpaying entity to use federal tax benefits. However, they would also constitute unregulated sales of electricity by third parties and open the door for other, larger non-utility electric



With more than 23 MW of solar installed across nearly 190 schools, Minnesota is among the top states for solar schools. Pictured are current and future solar installation sites on schools across Minnesota. (Courtesy of the Minnesota Department of Commerce.)

sales to the utility's customers. The utility, by its statutory right to be the sole retail electricity provider in its service area, can refuse to sign the applicant's MOU under those circumstances because the utility would not ultimately allow the facility to interconnect with the utility.

A draft agreement between a school and a developer will also contain assumptions about how much the school's utility rates will rise over the lifetime of the solar system. By reviewing the document, the utility is also able to check those assumptions and

advise the customer as to whether they are sound. Such data are vital to accurate system payback period calculations for the school, and they are sometimes based on general, inaccurate assumptions provided by developers.

In 2023, Minnesota enacted a nearly identical solar program for other public buildings, but the legislature only provided funding for one round of grants. They are exclusively for Xcel customers, and the funds come from Xcel's Renewable Development Account. As of May 1, there are no further funding proposals for either program before the legislature.

HR Insights

By Shelly Dau

Greetings! My first month at MMUA has flown by! I am thrilled to be here, and I look forward to meeting, working with, and serving you in the coming months.

A few things you should know about me. I grew up in a small, rural municipal utilities town in northwest Iowa, and while I've lived in the city for many years now, my small-town roots run deep. As the saying goes, you can take a girl out of Iowa, but you can't take the Iowa out of the girl.

Now, let me clarify. I am a Hawkeye through and through, but Minnesota has been my home for over half my life, and I love it here. I grew up as an avid Minnesota Vikings fan, and I continue to cheer them on season after season, waiting for that elusive Super Bowl championship. I have a keen sense of community, and I value the relationships I've built over the years.

I come to MMUA with a wide range of experience in leadership and human resources. In my new role as MMUA's first HR

professional, I am here to serve you, our members, in addition to my work with MMUA's employees. I look forward to sharing things I already know and growing my expertise in human resource matters as they apply specifically to the municipal utility environment. My door is always open. Please contact me any time if I can help you work through an HR issue you are dealing with.

Each quarter, I will be writing a column for *The Resource* based on topics you want or need to hear more about. I'll be working on roundtable topics for MMUA events, and I'll also be taking the lead in transforming MMUA's leadership programs to better reflect needs that are specific to municipal utilities. Those programs will roll out over the next few years.

In the shorter term, we will be offering quarterly webinars as another touchpoint on topics that are relevant to the HR landscape for municipal utilities. With that in mind, I am excited to invite you to our webinar on

Thursday, June 27 at 10:00 am. One topic I will be covering is the Pregnant Workers Fairness Act, and we will discuss the new regulations for implementation. There will also be time for you to tell me what HR topics are on your mind so that I can do the research necessary to create future content for you. In addition, my colleagues Christian Glanville and Rita Kelly will demonstrate MMUA's new website and membership platform, both of which will enhance your benefits and make your lives easier. You can read more about that on page 20.

My goal for this column is for it to be a collaboration between you, our members, and me. I invite you to send me HR-related topics that you would like to learn more about. Please send specific HR questions and/or ideas to me at sdau@mmua.org. Likewise, I will address HR topics that are relevant for you, such as changes in HR law, pending legislation, or current HR trends.

Tending to my own busy-ness

Have you ever noticed how much pride many of us take in being busy?

French philosopher Rene Descartes said, “I think; therefore I am.” Here in Minnesota, we are more likely to say, “I work; therefore I am.”

We come by our work ethic honestly. Most municipal utilities personnel I’ve met grew up on farms or in agriculture-dependent communities. Showing up, doing your best, and taking care of your responsibilities was drilled into us all. We place slackers in a category below warm beer, multi-lane road construction, frozen engine blocks, and people who throw their paper plate away with the food side up.

It isn’t slacking, though, to work smart and make the most of the time you have. Lately, as projects have piled up, I’ve become a little dissatisfied with my own productivity. It seems there should be some ways to work smarter and get things done more quickly.

So, I’ve been on a quest to see if there are some simple things I can do to get more done and still have a little time for my granddaughter’s softball games. Here are the ideas I’m in the process of implementing, which I hope you will find helpful.

Concept #1: Recapture time by changing how I relate to electronic devices. One of the most frustrating time-suckers for me is caused by forgetting things, doubling back, and otherwise trying to keep my ducks in a row. Although there are a few cobwebs in my aging brain, this forgetfulness is not a phenomenon connected to my ever-advancing years. Children and Millennial workers are having the same challenges.

Early this month I ran across an article in *The Wall Street Journal* (WSJ) entitled, “How a Social Media Break Restored My Attention Span,” and that led me to dig deeper on the topic.

Research shows the use of technology such as computers and smartphones has significantly impacted the human brain, affecting both cognitive functions and behavioral patterns. Findings suggest that while technology offers unparalleled access to information and connectivity, it also negatively affects attention, memory, and

the ability to multitask. For example:

- **Attention and focus:** Excessive use of digital devices and the internet can lead to difficulties in maintaining focus on a single task for extended periods. According to the Ohio State University Medical Center, the constant stream of notifications and the ability to switch quickly between tasks may decrease our capacity for sustained attention, make us more prone to distractions, and rob us of time.

- **Memory and learning impairments:** Experts contributing to a 2018 panel discussion at the Computer History Museum described emerging concerns related to memory. The ease of access to data online can reduce our need to remember details, weakening retention over time. This phenomenon is sometimes referred to as “digital amnesia,” and I suspect that is what is happening when I can remember a phone number from 1975 but cannot remember something I read an hour ago. The multitasking nature of digital interactions can fragment attention and reduce the effectiveness of learning.

Another study in this regard, published in *Science* in 2011 called “Google Effects on Memory: Cognitive Consequences of Having Information at Our Fingertips,” found that when people know they will later be able to look something up on the internet, they are less likely to retain it in the first place. In fact, we clever humans tend to remember the file or the link to access the information later, but not the information itself.

- **Cognitive and Emotional Impact:** According to a 2019 article from Harvard Medical School titled “Screen Time and the Brain,” technology use has been associated with changes in the neural processes related to cognitive control and emotional regulation. The “variable reward” systems embedded in many digital platforms such as social media and gaming can affect the brain’s reward system, leading to distractions that are unproductive and,

some would say, addictive.

With all these terrible consequences, it seems like the obvious answer is to get rid of my smart phone and reduce computer interactions as much as possible. I actually bought a book called *How to Break Up with Your Phone*, which provides 181 pages of tips on how to get things to a healthier place—not because smart phones are inherently bad, but because they steal our time and ruin our memories. So, using tips from the book and the WSJ article on social media, I am in the process of reclaiming my time in the following ways:

- **Giving up anything “scrollable, swipeable, and refreshable”** on my phone that would draw my attention away while I’m supposed to be engaged in another task. This means removing or deactivating any nonessential service that promotes “checkiness”—the tendency to keep looking at the phone for fear of missing something, which usually turns out to be something that can wait. This will help with my attention span and prevent lost time dealing with things that aren’t urgent.

- **Turning off notifications and putting essential apps either in a folder or on a secondary screen.** The idea here is to create conditions where I have access to the tools I really need, but I have to consciously go looking for them when the need arises. Things like news, weather, mapping, my bank app, email, contacts, and a few others, are necessary to get through life. They don’t need to dominate my consciousness though. Putting them somewhere “out of sight, out of mind” should help me avoid getting sucked into looking at things that don’t matter. I’ll still be able to check my balance if needed, but I’ll just have to live without knowing the exact moment tomorrow’s crossword puzzle is available.

- **Dealing with texts and emails in a more planful way** will cut down on distractions and decrease the likelihood of treating everything like it requires immediate attention. To do this, I can close all programs except the one I am

From My Desk to Yours

Karleen Kos
MMUA CEO



working in and turn the phone face down. If someone really needs me urgently, they can walk to my office or give me a call. I still plan to be 100 percent responsive to the people who depend on me, while also being highly focused on adopting new practices that restore my attention span and, eventually, my memory.

Tactic #2: Be the right kind of busy. Not all busy-ness is created equally, especially for those of us whose strong work ethic is part of our DNA. Sometimes busy-ness furthers our goals, nurtures our character, and makes people proud. That’s the good kind. Other times, our busy-ness weighs us down with stress, kicks up a lot of dust, and takes more than it gives. That can be soul-crushing.

Speaking for myself, I will always choose a life full of ideals, ideas, people, and projects. It fires me up to think of the challenges our industry has to navigate and the privilege of guiding MMUA to addressing them on behalf of Minnesota’s municipal utilities.

If we are not careful, though, other kinds of busy-ness can creep in. When it is the result of taking on too much, avoiding conflict, not saying “no,” or failing to manage expectations, it is not a good look. It doesn’t make us heroes; it makes us poor leaders.

Busy-ness is a choice. Change strategist and coach Ali Davies says it is possible to modify our approach to busy-ness. What we tolerate will persist, so each of us needs to decide how much busy-ness, and what type of busy-ness, we will allow ourselves to experience. This is the first step towards a less hectic life.

Here are some additional thoughts from Ali Davies on how to be less of the wrong kind of busy.



- **Start seeing being busy as a choice.** Because it is. Being constantly busy is a combination of behaviors, habits, mindset, and social conditioning gone mad. All those things are within your power to change.

- **Embrace pacing.** It is the antidote to busy-ness. Visualize the benefits you would get from adopting pacing in your life and work. Take action to create that.

- **Stop multitasking.** Embrace single tasking. Not only will this help you to feel less busy, but it will also improve your effectiveness.

- **Start saying “no” more.** Stop taking on too much in an unrealistic time frame.

- **Stop giving everything the same level of priority and importance.** Get clear on what is truly important. Prioritize those things.

- **To the extent possible considering the utility’s mission, stop being contactable and immediately available to everyone 24/7.**

- **Have a plan.** Work the plan. It helps you stop slipping into the busy trap.

- **Build in contingency times.** Things often take longer than we think they will or don’t go according to plan. Build in contingency time to allow for that.

- **Schedule downtime, rests, and breaks.** It might feel counter-intuitive when you feel constantly busy, but research shows that doing that will improve your effectiveness and productivity. Sometimes the best way forward is to take a step back

- **Set, implement, and maintain strong personal boundaries.** This is a great way to reduce and manage busy-ness and to protect what matters most.

As the busy summer season gets fully underway, I wish you plenty of sun, enough rain once a week to keep the crops and the gardens healthy, plenty of wild raspberries, and enough time to pick them.

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Hanson family

Continued from page 1

then I had a bad accident with a horse, so I went back to school for water at that point. I attended St. Cloud Community and Technical College, with my program being Water and Environment Technologies. It lasted 10 months. I entered the field in a couple of weeks and had three job offers instantly. They have an actual treatment plant in Richfield, which is where I now work. I've been in the industry now for about a year and a half.

Jacki: Right out of high school, Delano Municipal Utilities needed a quick fill-in for a week, to answer phone calls and do other work there. Two years later, I got my water license through Delano. As I was looking for a full-time job, there was a job opening at Shakopee, and I have now been there for the last three years. We do a lot of flushing the hydrants, inspecting new water mains, well checks, sampling. I am a water operator Class C.

Tyler: When I graduated high school, I didn't know what I wanted to do. I was working at a dairy farm, and a line career seemed like a good choice. I tried to get in a program, but it was full. Shortly, someone dropped out of the class, and I got in. From the time I signed up to the day I started the program was one week! I did a nine-month program in Baudette. After doing summer help at Delano, they didn't have a full-time position open at the time. So, I got into linework contracting with Karian/Peterson. We traveled all over the Midwest doing that kind of work. I liked the work but hated the travel. A year later, Shakopee had an opening for an apprentice lineman. I've been working there nine years as of May 11.

MMUA: Tell me a little bit about your current role and what your average week looks like.

Dan: We have a morning meeting, decide what everyone is doing, and see how many people are needed for each crew. I do spot checks, fill in if people are on vacation, and also do the ordering for equipment. It has been challenging, especially when some of these things had two-year lead times. Delano is growing so fast that we have a lot of needs in getting parts and pieces.

Working in my hometown, you know a lot of people, and that's my favorite aspect of the job. The hard part is doing disconnects.

In my role, I plan out the projects to see the best way to do them. We have a really open workplace where people have opinions and a say in how we do things. If you see something, say something! We can always stop a project if it looks unsafe.



Tyler and Jacki Hanson stand in front of Shakopee Public Utilities.

Erin: I work the overnight shift. I test the water every hour for chlorine and pH, and if they are off, we test further to see if we need to take steps to rectify that. We also do cleaning and pressure washing. Our operation does a

four-hour test on alkalinity and hardness to see where those levels are sitting. We look at adjusting for soda, ash, and lime. I try to figure out problems and if I can't, we have a chain of command to rely on. I also monitor

the lift stations and call people in if needed.

Jacki: Day to day, we don't do anything routine; there are always many different things to do. Sometimes we are out locating

water mains, putting meters in, and writing reports. There is nothing I don't like at my job. I like doing locating the most. Every seven weeks, we have a week where we go on call for

Continued on page 5



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Hanson family

Continued from page 4



Tyler works in a bucket truck restoring power after Hurricane Ian struck Florida in 2022.

water. When that happens, we do well checks on the weekend. When you're on call, you have to keep your phone on you to help if there is water leaking into someone's house or a water main break.

Tyler: As a journeyman line-worker, we do maintenance and construction of all the electrical lines. In Shakopee, we are two-thirds underground, one-third overhead. We do new housing construction line work, and we don't contract anything out except for our digging activities. Day-to-day, we are working on rebuilding some overhead line for a new roundabout in town. I like dealing with after-hours

outages, going out with crews at midnight and making people happy. I'm also involved with our lineman rodeo team at Shakopee; I have been doing that for eight years. We just got back from the competition in Louisiana. I have helped with some couple major storms, including with Hurricane Ian in 2022. I've also done mutual aid for the City of Rochester, Owatonna, and Minnesota Valley Cooperative. I love my job and it was the best decision I ever made!

MMUA: What is it like working at your specific utility? What is interesting or special about it?

Dan: We are like a family here

in Delano; employees like to do stuff after work. Tyler, me, and another guy I work with are in a golf league together. We play together and like to go fishing together. I've been told we have a good safety culture, especially with [MMUA's] Mike Grabow. I feel like when [MMUA's] Mike Willetts makes a safety policy, we try to take it seriously. Tyler can attest to this; you want everyone to go home safe at the end of the day. We get a lot of support from the community and the commission. We are always welcome to go to utility meetings, and we attend them from time to time.

Erin: Richfield isn't too big of town, but we have a Class A water facility. So, we do lime treatment on the water. We do a lot of treatment. Richfield people don't want water softeners in their homes, and the Class A water facility makes that possible.

Jacki: In Shakopee, we don't have a water plant currently; they are buying land for one. When I am out in public testing someone's water, they ask me if I am the summer intern, and then I tell them I have been there for three years! I am also the only woman in the water department.

Tyler: For Shakopee, we are the second largest public utility in Minnesota. So, every day is something different—doing meters, working on underground cable, and whatever else needs to be done. The variety of work is nice. Guys said in the 1990s that Shakopee was about the same size as Delano, and then when the Highway 169 bypass came through, guys were working mandatory overtime. It is still growing! We just acquired more

territory from Minnesota Valley Cooperative. We have 18,000+ meters.

MMUA: Tell me about the family talking shop about your work in the utility world. Do you share advice or stories about how your operations differ?

Erin: When [Dan] and Tyler talk about electricity, Jacki and I zone out sometimes.

Dan: Sometimes, we talk about explosions, when things blow up.

Tyler: We had a transmission line in Shakopee where a man in an ultra-light plane got wrapped up in the power line, and he was hanging there. We called our on-call guy and he said, "What do we want to do?" They ran a bucket truck up there and got him out. Thankfully [the guy] was fine.

Erin: For Jacki and me, we don't do a lot of the same things. We have very different jobs. The only thing we do in common is chlorine checks.

MMUA: What is the biggest challenge your utility operation is experiencing right now?

Dan: The biggest challenge we have is the amount of growth, and some of the infrastructure is getting a little old. We are planning to add a new substation and a water tower. Delano is growing to the west, and a little bit to the south and north. Growing up on a farm, it is hard to see the fields getting developed. With new homes, people are concerned about the smells and manure. Erin and Tyler still work on our farm in the Delano area milking cows. I make hay, and Jacki likes to rake.

Erin: Richfield's biggest struggle is we have lime byproducts that we turn into a cake. A guy hauls it away, and he puts it on farmer's fields. Now he is having trouble putting it on fields because it lasts longer than they used to think. Anywhere he can find a field, he puts it. It makes the fields very alkaline. Our output varies based on flow; we fill up a semi-truck trailer in a day and a half this time of year. In the summer, we can fill it in a day.

MMUA: Why should kids who are looking for a good job and career path look to the utilities field?

Erin: On the water side, a lot of people don't know the job exists. In my program, there were 13 people, and 10 of us got their license. Right now, there are 50 openings in my job area in Minnesota. The pay is nice, the benefits are great, and the work is interesting.

Tyler: For the electric side, the school I went to was nine months, a couple guys I knew did a four-month program. If you work hard enough, you can make six figures right out of school. When I got out of school, jobs were a little hard to come by, but now a lot of people are retiring and there are a lot of jobs available.

MMUA: What do you like to do in your free time?

Tyler: My dad and I are in a golf league; in the past we were on a trapshooting team. We took a break but want to get back to doing that.

Dan: We do a lot together, ice fishing, deer hunting, though we didn't do a lot last year. Tyler and I both have a Harley. It gets busy, we are on call a lot.

Erin: We have horses, and we go to the dog show with my mom. We also raise and show rabbits. I have an Appaloosa; Jacki has two quarter horses. We show them and participate in the Edina 4th of July parade. Jacki used to do barrel racing.

We also raise rabbits; we have Mini Lops, Harlequins, and Dwarf Papillons, among others. My mom and I are both registered with the American Rabbit Breeders Association.

Dan: We used to have cows, but the horses took that pasture.

Tyler: Jacki has two dogs. The cats at my house are my wife's, but I'll claim one of them!

Thanks to the Hanson family for making the time to visit with MMUA. Thanks also to Paul Twite for hosting us in Delano and Greg Drent from Shakopee Public Utilities.

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MISOs planned transmission expansion to make significant impact; power agency leaders reflect

In early March, the Midcontinent Independent System Operator (MISO) released a draft Tranche 2 of its planned transmission line expansion.

The projects would include three to five lines in Minnesota and are estimated to cost \$17 billion to \$23 billion.

MMUA reached out to leaders from the Central Municipal Power Agency/Services (CMPAS), the Southern Minnesota Municipal Power Agency (SMMPA) and Missouri River Energy Services (MRES) for their thoughts on this significant transmission expansion and how it will affect their entities.

MMUA: What are your reactions to Tranche 2?

Warren Hess, Transmission Policy Manager, CMPAS: My reactions to Tranche 2 are that MISO is working diligently to get the right facilities approved and built to support the needs of the electric system as conventional generation units are retired and wind, solar, and battery resources in MISO's Generation Interconnection queue need to be connected and delivered to MISO load.

Jeremy Sutton, Chief Operating Officer, SMMPA: The identified projects are needed for the grid to remain reliable while meeting policy direction within Minnesota. I think that those arguing that more is needed are probably correct.

Tim Blodgett, Vice President of Member Services & Communications, MRES: MISO continues to make good progress in developing transmission plans in the region to address the ever-changing resource mix and associated congestion. We believe the current proposal, while still fluid, will likely need to be expanded from Minnesota into North Dakota and/or South Dakota to ensure the overall plan is adequate to meet the region's needs.

MMUA: How do transmission issues currently affect your organization?

Warren: Transmission issues do currently affect our organization by having implications for our costs, our revenues, and our reliability, as we pay for transmission use, own transmission, and we have customer loads depending on the transmission system.

Jeremy: Much like a congested freeway during rush hour, we are impacted by transmission

line congestion that significantly puts upward price pressure on delivering power from generation sites to where it is consumed. This is often reflected in negative locational marginal pricing numbers (LMPs) that are a clear economic disincentive to adding more generation within that footprint without transmission projects to alleviate the congestion.

MMUA: Is transmission a large part of the cost to the utilities for which you provide power?

Warren: I would say transmission is a medium part of the cost to the utilities for which we provide power.

Jeremy: While we have seen costs increase over time, transmission charges are currently not a large component of the overall bill. However, we keep a close eye on that balance and are acutely aware of the MISO estimated price tags that accompany large transmission expansion. We expect the trend to continue as the region adds more transmission resources to accommodate the renewable energy transition in Minnesota. We believe that this highlights the importance of ensuring that the users of the system that bear these costs, such as public power entities, have an opportunity to jointly own transmission as an investment vehicle to help defray the expenses of transmission expansion.

MMUA: How will the current plans for transmission in the region affect your operations?

Warren: The current plans for transmission in the region will

affect our operations by potentially raising transmission costs, but we also may get the ability to invest in the transmission to be able to earn a return to defray those costs. There is also the possibility the new transmission will increase our electric reliability.

Jeremy: We are still reviewing the local impact of the proposed lines.

Tim: MRES continues to be active in the Midcontinent Independent System Operator (MISO) Long-Range Transmission Plan (LRTP) Tranche 1 and Tranche 2 planning activities. Specifically, we are working on development activities based on our ownership in the Big Stone South to Alexandria to Big Oaks 345kV project (LRTP Tranche 1 Project 2).

MMUA: Do you think MISO is on the right track?

Warren: I do think MISO is on the right track. They have developed an initial draft of Tranche 2 projects and are entertaining tweaks to that portfolio. Transmission needs to be added to bolster reliability.

Jeremy: I do believe that MISO has an eye on reliability and places that first and foremost. That said, we would like to see input from stakeholders continue to flow through and be assured voices from the industry are not only heard but put into action when appropriate.


Tim: We appreciate the delicate balance MISO has in trying to ensure sufficient transmission development to meet the

planned resource transition while at the same time being sensitive to concerns about ever-increasing transmission costs.

MMUA: What is your—or your organization's—experience with opposition to transmission expansions?

Warren: Our experience with opposition to transmission expansions is centered around the transmission we own and participation in public meetings for that transmission line. The public process for routing and siting transmission lines is an important process.

Jeremy: We see great value in the collaboration that took place with the CapX2020 team and the continuation of work with Grid North Partners. One of the obvious issues with new transmission is landowner concerns about right-of-way acquisition. Condemnation to obtain rights of way is a last resort. CapX and our partners on the Badger Coulee transmission project in Wisconsin did a great job of working with landowners to minimize impacts to private landowners.



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Nominations sought for MMUA awards, board of directors seats

MMUA's Nominations and Awards Committee is accepting nominations for MMUA's 2024 industry awards.



MMUA'S Awards Program

MMUA annually confers awards on members of the municipal utility community, and those who support us, for unique contributions to our industry. The awards include:

- **System Innovation Award**—Given to a utility that has demonstrated leadership and innovation in customer service, energy efficiency or renewables, technology, or other areas.
- **Public Service Award**—Given to a state or federal elected or appointed official who has been a strong supporter of MMUA and its members.
- **Distinguished Service Award**—Given to individuals who perform outstanding service in support of the association and its goals.
- **Community Service Award**—Given to an individual who has performed long and well in support of a municipal utility at the local level.
- **Rising Star Award**—Recognizes a future leader who has demonstrated a dedication

to the goals and principles of municipal utilities through problem solving, creativity, and job knowledge.

- **Honorary Lifetime Membership**—This prestigious award symbolizes a long professional life dedicated not only to the advancement of municipal utilities locally, but also for the betterment of our industry on a statewide basis.

The deadline for 2024 submissions is June 30. The awards will be presented at the MMUA Summer Conference in Fargo-Moorhead on August 20.

Nomination forms for the various awards can be downloaded from the MMUA website beginning in early May. You may submit nominations in multiple categories; all nominations will be considered.

Nominations for the Board of Directors

Serving on MMUA's Board of Directors is an honor as well as a responsibility. It is also a great opportunity for professional growth. Multiple seats are open

this year for regular members due to the regular rotation process and the addition of one board seat as allowed by the bylaws. In addition, one seat that may only be filled by a mayor, city council member, or municipal utilities commission member will be open for a partial term.

If you represent a regular MMUA member utility, are willing to accept responsibility for governance, and are available to actively participate as a Board member, please contact MMUA CEO Karleen Kos to declare your interest and learn more about the nominations process.

Nomination forms should be submitted to Rita Kelly via email (rkelly@mmua.org) or regular mail (3131 Fernbrook Lane North, Suite 200, Plymouth, MN 55447). The deadline for nominations is June 30.

If you have any questions about the nominations process or what service on the board involves, please contact Karleen Kos. She will be happy to discuss the role of the board members and the time commitment involved. Please email her at kkos@mmua.org or call her at 763.746.0701.

MMUA's Kent Sulem testifies in St. Paul



Kent Sulem, director of government relations for MMUA, testified on April 16 before the House Climate and Energy Finance and Policy Committee regarding House File 4177, the Omnibus Energy Bill, sponsored by Representative Patty Acomb (D)-Minnnetonka.

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Startup plans mirrored satellites to power solar plants after dark

A startup called Reflect Orbital has announced plans to build and launch 57 small, mirrored satellites that would orbit the earth.

Together, this equipment would be able to provide an extra 30 minutes of sunlight to solar power plants on earth.

The first satellites are planned for a 2025 launch date. Founder and CEO Ben Nowack hopes to make his service easy to use for potential customers. "We want to make it as easy as possible — like, log into a website, tell us your GPS coordinates and



we get you some sunlight after dark," said Nowack.

Powering solar panels on earth after dark has seemed like an impossibility until now.

If Reflect Orbital is successful, the electrical output of solar panels could be increased, making solar even more of a winning proposition.

New research finds that Great Britain is getting closer to a carbon-free future

Great Britain is making large strides toward becoming carbon free, as reflected in data gathered by the United Kingdom (UK)-based website Carbon Brief.



The country used just 6.4 percent carbon-based generation across an entire day on April 5, a new record low. The country has also achieved lower carbon generation levels over shorter time spans, recording carbon-based generation comprising about five percent of the total on

many occasions.

The record over a shorter period was 2.4 percent of electricity coming from carbon-free sources for an hour on April 15.

Data for the analysis was collected from the UK's National Grid electricity system operator.

Milwaukee wastewater treatment infrastructure receives recognition



On April 22, Earth Day, the Milwaukee Metropolitan Sewerage District (MMSD) was honored by the city and its wastewater treatment infrastructure recognized with "Veolia Ecofactory Day."

Veolia, a solutions-based company in the water, waste, and energy management fields, has been a longtime operational partner of MMSD. The Ecofactory is an effort that turns wastewater treatment into a process that creates green energy. In Milwaukee, this also means the creation of fertilizer and using waste gas to create power.

MMSD is proud of what it has accomplished, but is not resting on its laurels. MMSD plans to operate with 100 percent renewable energy by 2035, as well as continuing its efforts to turn wastewater into valuable natural resources.

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PFAS mitigation

Continued from page 1

landfills, and wastewater treatment plants. The Minnesota Pollution Control Agency (MPCA) has begun testing air samples taken near PFAS-related industrial facilities with the intention of requiring toxic air emissions reporting in the Twin Cities metro area by April 2027. The MPCA has also arranged for storm water sampling from regional airports, automotive shredding facilities, and metal finishers.

In its ongoing effort to understand the impact of pollutants on the condition of the Mississippi River system, the MPCA has announced that in 2024 it will, for the first time in a single year, collect and test water monitoring samples from the length of the waterway in Minnesota at more than 50 locations and include PFAS testing. The MPCA has been monitoring perfluorooctane sulfonate (PFOs), a type of PFAS, in fish statewide since the early 2000s, finding the highest levels in the metro area where it is now focusing those efforts.

PFAS manufacturers and industrial product manufacturers who use PFAS often wind up with PFAS in their landfilled waste and leachate that drains them. To address this environmental contamination, the MPCA has now sampled and tested groundwater at 102 of the

111 sites in the Closed Landfill Program. The Agency found PFAS at 100 of the sites, with 62 exceeding healthy drinking water values and 16 of those exceeding them by a factor of 10. The MPCA also tested groundwater near landfills and reports it is following up at a handful of sites near private drinking water wells that tested above safe drinking water values. Yet, the MPCA states in its recent report on the testing that no community water supplies are believed to be affected at this time.

The MPCA has conducted testing at industrial sites that typically produce wastewater containing PFAS. Partial results from that process indicate PFAS are present at 12 sites representing seven different industries. Eighty-three wastewater treatment plants with industrial customers began voluntarily providing the MPCA with sampling data from their influent in 2023, in part to help the communities and the state spot and deal with local sources of PFAS. To aid in that effort, the Agency has developed and posted materials on its website to assist local governments in identifying and addressing PFAS sources in their communities.

Reducing PFAS from water sources into drinking water. The maximum contaminant level

(MCL) for PFAS was finalized and announced by the US Environmental Protection Agency (EPA) on April 10, 2024. At the finalized levels, 22 Minnesota water systems exceed the enforceable four parts-per-trillion (ppt) MCL for two types of PFAS—PFOSs and perfluorooctanoic acid (PFOA), likely because the sources they draw from are more contaminated than most.

The EPA announcement also sets an enforceable 10 ppt MCL for PFNA, PFBS, PFHxS, and GenX (other types of PFAS) that will be evaluated in combination with each other using what is known as a hazard index. Public water systems have three years to test for PFAS and an additional two years to achieve the MCLs. The EPA is making \$1 billion available in grants to assist relevant authorities in this effort.

New direction is expected concerning PFAS from wastewater treatment plants. Minnesota has 150 wastewater treatment facilities that supply biosolids for application as fertilizer to farm fields. These facilities will have to start sampling their product for PFAS in September. The PCA is not issuing new permits until further notice. Further guidance concerning treatment plants is under development

Some PFAS litigation has been

resolved, but it is likely far from over. In 2018, Minnesota settled its lawsuit with 3M for \$850 million, which the MPCA is currently using to remediate east metro ground water and to protect and enhance related natural resources, including fisheries.

In June 2023, 3M, Dupont, and other companies settled a class-action lawsuit filed in South Carolina by multiple public water providers over PFAS-contaminated water sources. 3M's share of the \$12.5 billion settlement is \$10.3 billion and will be paid out beginning later this year.

In a major step, on April 19, 2024, the EPA declared PFOA and PFOS to be "hazardous substances" under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, also known as the "superfund law"). Typically, under CERCLA, just about any person or entity that has a hand in real estate that contains hazardous substance pollution may be held liable for damages emanating from the contamination.

Fortunately, however, in an official memorandum issued the same day titled *PFAS Enforcement Discretion and Settlement Policy Under CERCLA*, EPA's Assistant Administrator for Enforcement and Compliance

Assurance states, "EPA does not intend to pursue entities where equitable factors do not support seeking response actions or costs under CERCLA, including, but not limited to, community water systems and publicly owned treatment works, municipal separate storm sewer systems, publicly owned/operated municipal solid waste landfills, publicly owned airports and local fire departments, and farms where biosolids are applied to the land." Rather, "EPA will focus on holding responsible entities who significantly contributed to the release of PFAS into the environment, including parties that manufactured PFAS or used PFAS in the manufacturing process, federal facilities, and other industrial parties."

That's good news for municipal utilities. However, governmental enforcement actions are only part of the puzzle. Private civil actions against public entities are still very possible, though currently it is impossible to predict the extent or scope of such potential actions. The legal industry does expect more litigation in the coming years involving additional industrial PFAS manufacturers as well as companies that sold products containing PFAS.

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Generation school



Christian Torkelson from the League of Minnesota Cities gave a talk on preserving critical infrastructure from threats.



Carey Mattison from the Minnesota Pollution Control Agency spoke about above-ground and below-ground fuel storage tanks and the regulatory standards for each.



Attendees enjoyed the welcome reception on night one.



David Karow from Ziegler Power Systems discusses cooling on Caterpillar generation.



Blooming Prairie's new Caterpillar provided attendees with the venue to learn about this type of generation.



At the downtown power plant in Blooming Prairie, attendees focused on Fairbanks Morse generation.



Attendees remove covers from the OP.



At New Prague Municipal Utilities, attendees discussed Cooper generation.

2024 MMUA Generation School shows off the diverse world of Minnesota's municipal power generation

On April 16-18, power plant professionals from across the Upper Midwest converged in Owatonna for the 2024 MMUA Generation School.

The school presented a wide array of generation equipment and scenarios to attendees, as well as providing valuable information from experts in the field.

The first speaker was Christian Torkelson from the League of Minnesota Cities. He asked attendees, "What keeps you up at night?" regarding the security of your town's power infrastructure. He challenged attendees to have a plan to minimize future threats. Torkelson also did a mini-tabletop exercise exploring a bad actor's influence on a power system. He emphasized the prioritization of processes and equipment. Which of these would be recoverable if they were impacted? What can't we live without?

The second speaker was Carey Mattison from the Minnesota Pollution Control Agency. He discussed the rules and regulations surrounding above-ground and below-ground fuel storage tanks. For above-ground tanks, Carey mentioned the importance of minimizing rust, keeping tanks painted, and removing woody vegetation from around tanks. Cleanliness around tanks is important too: spills on the ground are one of the more common violations he sees in the field.

After the end of class on day one, attendees enjoyed a wel-



New Prague's generation system was an impressive sight.



Attendees view the power infrastructure at Faribault Energy Park.



Doug Junion from Rotating Apparatus Company (left) and Paul Helling from MMUA (right) discussed maintenance and inspection of generators.



Attendees check out the steam turbine and the generator in the main building.

come reception and networking with colleagues from around the region.

Day two began with attendees going to hands-on training with their preferred generation type. At Blooming Prairie's industrial power plant, learners worked

with new Caterpillar generation. David Karow, Shaun Kelly, and Ben Millard from Ziegler Power Systems were on hand to discuss the operation of these units, including scheduled maintenance and best practices.

Over at Blooming Prairie's downtown power plant, learners were working on Fairbanks Morse generation equipment. Jeff Crampton from Fairbanks Morse Defense worked with attendees on maintenance protocols, which included the removing of covers and inspection of crucial parts of the generator. The replacement of gaskets was also covered.

In New Prague, attendees worked on Cooper generation. Information covered included the sourcing of parts, oil types, warmup periods for compliance with emissions standards, and much more. Bob Heine from the

Southern Minnesota Municipal Power Agency and Tim Proehl from the Glencoe Light and Power Commission were on hand to walk learners through these topics.

Day three started with a talk by Doug Junion from Rotating Apparatus Company. The company can work on many aspects of generation, including preventative maintenance and testing. It was mentioned that five-year inspections of generation equipment could become a requirement in the future, so it is important to stay on top of generator maintenance and repair.

The group then left Owatonna for a tour of the Faribault Energy Park, a dual-fuel capable, 300-megawatt combined cycle power plant. The plant opened in 2007 and cost \$180 million to build. Owned and operated by

the Minnesota Municipal Power Agency, this mostly gas-fired plant can be operated by only a few people.

The plant takes the exhaust from the gas power plant and condenses it so that it can be run through a steam turbine to generate even more power. This gives the plant 50-55 percent efficiency, compared to an efficiency in the 30 percent range for a simple cycle gas plant.

After the tours, attendees returned home with a lot of ideas and information to share. The 2024 MMUA Generation School showcased an array of talented people and impressive generation infrastructure that exists in the Minnesota municipal utility world. Thank you to the presenters and attendees who made this school a success!

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FCC announces benefit cuts to Affordable Connectivity Program

On April 9, the Federal Communications Commission (FCC) announced that due to lack of Congressionally appropriated funds, the FCC would be forced to make cuts to the Affordable Connectivity Program (ACP).

The program helps low-income households receive broadband access.

Projected subsidy cuts for May 2024 include a reduction in the maximum subsidy from \$30 to \$14. For tribal lands, the

monthly subsidy will drop from \$75 to \$35.

The FCC stopped accepting new applications for the program in February. More than 20 million households will be affected by the cuts.

EPA sets national limits on PFOA and PFAS in drinking water for the first time

On April 10, the United States Environmental Protection Agency (EPA) defined federal limits on perfluoroalkyl and polyfluoroalkyl substances (PFAS) in public drinking water systems for the first time. Six types of PFAS are affected by the new national limits.

Perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) will have a limit of four parts per trillion in public drinking water. Perfluorononanoic acid (PFNA), perfluorohexane sulfonate (PFHxS), and hexafluoropropylene oxide dimer acid, commonly called GenX chemicals, will have a limit of 10 parts per trillion.

Mixtures of any two or more of four types of PFAS, including



PFNA, PFHxS, perfluorobutane sulfonate (PFBS), and GenX chemicals, are also subject to new limits.

To help meet these standards, EPA has made about \$1 billion in funding available through the Infrastructure, Investment and

Jobs Act (IIJA) that will provide for testing and treatment of public water systems for PFAS.

The new rules will reduce PFAS exposure for an estimated 100 million people in the United States.

Xcel shuts down power infrastructure to prevent wildfires

On April 7, Xcel Energy officials in Colorado preemptively shut down power to about 55,000 customers in metropolitan Denver and Boulder.

The planned power cut was done to avoid sparking a wildfire during a weekend wind event.

In total, 250,000 Xcel customers lost power due to the windstorm, including those affected by the preemptive outage. Many customers were surprised by the loss of power, including a wastewater treatment center in the City of Boulder, which had to divert sewage from spilling after the power was turned off.

The Colorado Public Utilities



Commission (CPUC) held a public comment hearing on April 17 to receive public input on the power cut.



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Election in 2024

Continued from page 1

2024 ELECTION

interesting possible results depending on the outcome of the general election in November, and both the timing and outcomes of possible special elections.

First, although the state Senate is not up for re-election until 2026, majority control could switch. That is true even if no other vacancies were to occur, because the DFL currently holds only a one-vote advantage as the majority party, 34-33.

One way a switch can happen is if Sen. Morrison wins her congressional race and a Republican wins the special election to fill her state Senate seat. If Republicans pick up the Morrison seat, the majority would flip to their control by the same one-vote majority currently held by DFLers. However, the special election for her seat could not be scheduled and concluded by the January 7, 2025, start date for the next leg-

islative session. Thus, the 2025 session could begin with a 33-33 tie in the Senate, a situation that would make it exceedingly difficult to accomplish anything, including naming committee chairs and making committee assignments.

This same result would occur if Sen. Morrison lost her congressional bid and retains her state Senate seat, but Sen. Mitchell's seat is vacated. Should that opening lead to an eventual pickup by Republicans, but that does not happen in time for the seat to be filled by the January 7 start date, the same 33-33 tie will occur until the seat is filled.

Two Senate openings? Now consider the possibility that Sen. Morrison wins her congressional race and Sen. Mitchell resigns (something she has said she will not do) or is forced out—but, again, this happens without enough time to fill the vacant seats by January 7. In this situation, the 2025 legislative session would begin with the Republicans holding a 33-32

majority.

If the Republicans were to win one of the vacant seats and lose the other, they would ultimately have a 34-33 majority. If the Republicans were to win both special election seats, their majority would grow to 35-32. But if they lost both seats, the DFL would regain a 34-33 majority. This would happen after the Senate has already organized under a 33-32 Republican majority. Such a scenario could be very messy, and it could trigger interesting maneuvers on bills prior to the seat(s) being filled following the special election(s).

On the House side, things are fairly routine. Democrats will hold a 70-64 majority heading into the November elections with all seats on the ballot. This means that if Republicans gain three seats, control would be split 50/50 at 67 seats for each party. If the Republicans gain at least four seats, they will flip control of the House.

Of course, other twists could come into play, but the scenarios

above outline the most likely possible outcomes.

In other words, a shift in control dynamics is likely up ahead. Depending upon the outcome and timing of the Senate issues, we will be heading into the next session with the possibility of a divided legislature, at least for a while. It is even possible that Republicans could ultimately control both chambers while Governor Walz, a DFL-er, retains his role and thus ensures split leadership for the next biennium, regardless of what happens in the legislature.

Thus, things will likely get very interesting as seats transition and the numbers supporting the current DFL trifecta are tested. Under just the right conditions, full DFL control could continue. As you can see, though, there are many circumstances that would shift control of at least one chamber to Republicans. At least where politics are involved, we are truly living in interesting (frustrating?) times.

Minnesota PUC allows renewable natural gas into utility's distribution system

On April 5, the Minnesota Public Utilities Commission (PUC) announced that it would permit Minnesota Energy Resources Corporation (MERC) to add renewable natural gas (RNG) to its distribution infrastructure.

MERC is a regulated gas utility in the state that delivers natural gas to customers in 179 cities in Minnesota.

MERC will purchase the RNG it uses. RNG is typically produced from methane that is emitted at landfills or in large farming operations, with MERC saying that they will source their RNG primarily from farm animal waste.

The move comes as part of the Natural Gas Innovation Act (NGIA) of 2021, which supports the state's gas utilities to file innovation plans and explore inventive new ideas in the gas space, including methods of decarbonization.

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Sioux Center to add 12 megawatts of diesel generation



On March 27, the Sioux Center, Iowa, City Council voted unanimously to install 12 megawatts of standby diesel generation in the city.

The Council also voted to develop a reserved capacity agreement with Missouri River Energy Services (MRES).

The \$21 million project will be bankrolled by MRES over 30 years. The project will provide power to the grid when needed and is able to provide about half of Sioux Center's electricity needs in the case of an emergency.

The location and date for the groundbreaking for the new diesel generation is still to be determined. From the time construction starts, it may take three years to reach operation.

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Thank you!

Rita's quilt earns thousands at APPA



Rita Kelly of MMUA once again made a beautiful quilt to be auctioned off at the American Public Power Association's annual Public Power Lineworker's Rodeo. The Lineworker's Rodeo this year was held in Lafayette, Louisiana. Rita's quilt made \$4,640 for lineworkers and their families who are affected by injury or catastrophic events.

New research sets broadband speed record without need for improved infrastructure

Researchers at Aston University in the United Kingdom have transferred data at a rate of 301 million megabits per second, a new world record.

This speed is 4.5 million times faster than the speed of average home broadband. The data was transferred by opening up specific new wavelength bands not currently used in fiber optic systems, but available using standard optical fiber. This means the breakthrough could potentially be applied to existing broadband systems with limited modifications.

The feat was accomplished using two spectral bands called the E-band and S-band, together with an optical amplifier. The amplifier allowed the E-band to be used. Aston's researchers describe the use of different wavelength bands as equivalent to different colors of light being sent down the optical fiber.

The work was done by Aston University with the National Institute of Information and Communications Technology in Japan and Nokia Bell Labs in the United States.

One of the team's researchers, Dr Ian Phillips from Aston



School of Computer Science and Digital Technologies, explained the experiment like this: "Broadly speaking, data was sent via an optical fiber like a home or office internet connection. However, alongside the commercially available C and L-bands, we used two additional spectral bands called E-band and S-band. Such bands traditionally haven't

been required because the C- and L-bands could deliver the required capacity to meet consumer needs."

The researchers believe that increasing transmission capacity in the backbone network, the findings could lead to far better connections for end users without deploying all new fibers and cables.

General Electric completes breakup into three companies; historic conglomerate is no more

On April 2, the split of the historic General Electric company was completed as three of its businesses, which were split into independent companies, all began trading together on the stock market.

General Electric's energy company, which is called GE Vernova, began trading on the New York Stock Exchange on April 2. GE Aerospace will maintain the historic "GE" ticker and comprise GE's aerospace companies. GE HealthCare, a medical technology company, began trading in 2022.

The company that was founded by Thomas Edison was

a ubiquitous part of Americans' lives throughout the 20th and the first part of the 21st centuries. Selling everything from train locomotives and airplane components to home appliances and lightbulbs, GE was a colossus of 20th century business. It first joined the Dow Jones Industrial Average in 1896 and was part of the index for 122 years.

GE's components are found throughout America's power plants and electrical generation infrastructure. The energy equipment manufacturing part of GE will carry on as GE Vernova.

European Union opens investigation into Chinese solar panel manufacturers

On April 3, the European Union (EU) opened investigations into two Chinese solar panel manufacturers to learn whether Chinese companies have received excessive benefits from subsidies, allowing them to underbid competitors to build a new solar park in Romania.

both have their main operations in China. The EU is concerned that foreign subsidies granted to these companies make European trade less competitive and fair.

The China Chamber of Commerce has pushed back on the investigations, claiming EU regulation is "seriously distorting the level playing field for Chinese companies." The EU says there is sufficient indication of problems to justify the investigation.

The total contract is worth about \$404 million.

The two firms, European subsidiaries of Longi and European subsidiaries of Shanghai Electric,

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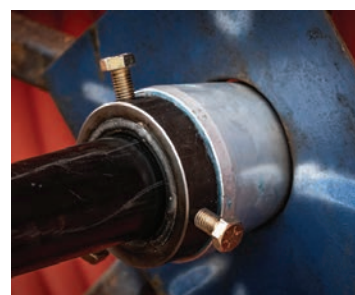


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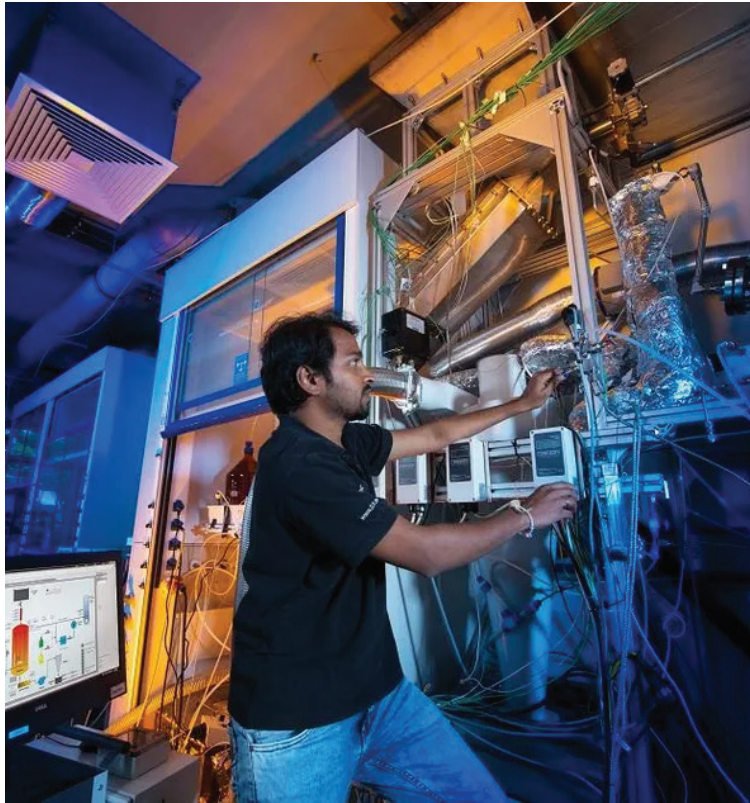
Sulfur could be the thermal solar storage medium of the future

As storage technologies continue to develop, solar power still suffers from the stigma of not being completely dispatchable if the sun isn't shining.

However, work being done in Germany is using humble sulfur as an energy storage medium that could be as dispatchable as coal. The research is being funded by The European Innovation Council (EIC) and is being coordinated by the German Aerospace Center.

In solar thermal energy storage, solar power is stored in a medium that is heated to store the energy until it is needed. Scientists have discovered that sulfur can do the job at a higher energy density and lower cost than many other mediums, including molten salt.

Unlike many solar thermal energy mediums, sulfur is burned when it is utilized for storage. The process works like this: a closed-loop solar system takes sulfuric acid and converts it into sulfur when the sun is shining. When the sun isn't shining, the sulfur that is created is burned,



creating a heat medium and sulfuric acid once again.

Sulfur can be stored like coal and is easily manageable. The closed-loop system negates any issues that come from the burn-

ing of sulfur, like particulates, smog, and acid rain.

The researchers involved in the project plan to demonstrate the technology publicly in about two years.

Milwaukee Metropolitan Sewerage District releases 357 million gallons of wastewater due to heavy rain

From April 2 to April 4, heavy rain in the Milwaukee area caused 357 million gallons of untreated wastewater to enter local rivers and lakes, including the Milwaukee and Menominee Rivers and Lake Michigan.

Milwaukee's combined sewage system, which takes in both storm and wastewater, was part of the problem. The main sewer tunnel filled with rainwater, causing Milwaukee Metropolitan Sewerage District (MMSD)

employees to initiate a planned overflow of untreated wastewater.

MMSD staff also communicated with community members to limit water use during the overflow event.

Minnesota Department of Commerce funds \$5 million in energy programs

In early April, the Minnesota Department of Commerce (DOC), Division of Energy Resources, announced \$5 million in funding through its Conservation Applied Research and Development (CARD) grant program.

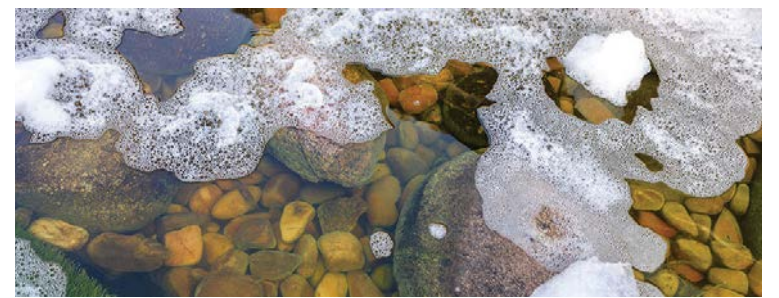
According to the DOC, "CARD projects quantify the savings, cost-effectiveness and field performance of advanced technologies; characterize market potential of products and technologies in the

State; and investigate and pilot innovative program strategies."

Seventeen projects received funding, with the Center for Energy and Environment receiving \$2.6 million in funds. Other funded projects include work on geothermal site selection, decarbonization of larger utility customers, right-sizing water distribution pipes, and work on heat pump projects.

Forty projects in total were submitted to the grant program.

3M completes settlement with public water suppliers over PFAS



On March 29, a federal district court judge in South Carolina approved a \$10.5-12.5 billion settlement between Maplewood-based 3M, Inc., and more than 12,000 public water suppliers who banded together in a class-action lawsuit against the company.

3M manufactures per- and polyfluoroalkyl substances (PFAS) that have caused water contamination across the country.

The settlement will allow public water suppliers to receive billions of dollars in funds for water testing, treatment, and abatement. PFAS contamination arose from a variety of sources, including firefighting foam used by fire departments, local manufacturing, landfills, and products that contained PFAS.

3M plans to end manufacturing of PFAS-containing products by the end of 2025.



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Biden administration approves Massachusetts offshore wind project

On April 2, the Biden administration approved the eighth offshore wind farm project in America, New England Wind 1 and 2, off the coast of Massachusetts.

The project is located approximately 28 miles southwest of Nantucket Island and 23 miles south of Martha's Vineyard.

As many as 129 wind turbines will be constructed, creating as much as 2,600 megawatts of electricity. The electricity will be sent via cable to transmission infrastructure in Barnstable and Bristol County, Massachusetts. The project still needs local approval.



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Company creates new system for producing synthetic natural gas

A company called Terraform Industries has created a new system for producing synthetic natural gas from solar energy.

The setup, called the Terraformer, is made of three parts: a direct air capture (DAC) system that takes in carbon dioxide (CO₂), an electrolyzer that turns solar power into hydrogen, and a reactor that turns these inputs

into synthetic natural gas.

The company's results are impressive: inexpensive solar panels combined with its system are projected to drive down the price of synthetic natural gas and make it competitive with natural gas. Additionally, the company says the inputs of the synthetic natural gas are already price-competitive. The Terraformer creates hydrogen

from clean electricity for less than \$2.50 per kilogram, which is lower than the current green hydrogen price of \$5-\$11 per kilogram. The DAC system can take a ton of CO₂ and filter it for less than \$250 per ton.

Terraform Industries will keep refining its system so that it can be even more competitive in the areas of DAC, hydrogen, and synthetic natural gas.



Minnesota Public Utilities Commission approves Sherco Solar



On April 4, the Minnesota Public Utilities Commission (PUC) gave approval to the Sherco Solar plant in Sherburne County, which will be the biggest solar project in the state.

The 460-megawatt project is being developed by Xcel Energy. In a statement, Xcel CEO Chris Clark said, "We are pleased to

move forward with the Sherco Solar project. We know it will be a key component to meet our customers' energy needs as we transition away from coal and closer to our vision to deliver 100 percent carbon-free electricity by 2050."

The solar plant is expected to reach full operation in 2025.

Chinese scientists create diamonds that can conduct electricity

Diamonds are beautiful and have many industrial uses, but until now, they have been a poor conductor of electricity.

Now, scientists at four Chinese universities have taken their knowledge of lab-grown diamonds to create diamonds that can conduct electricity.

To create "conducting" diamonds, the scientists combined diamond grains with graphene, which is a highly conductive

form of carbon. The diamonds don't look like a typical diamond, but they possess all the properties of a diamond, including hardness and strength. The researchers say the new diamond could be used in sewage treatment processes that are very acidic or alkaline, or in engines that need materials that can be resilient to heat. There will doubtless be many other applications for this hard, resilient, and conductive creation.

Nemadji Trail Energy Center approval process hits roadblocks

On April 3, the Superior, Wisconsin City Council voted against holding a public hearing on the planned Nemadji Trail Energy Center (NTEC) in Superior, a 625-megawatt natural gas plant that is a joint project of Minnesota Power, Dairyland Power Cooperative, and Basin Electric Power Cooperative.

Four councilmembers voted in favor of setting a public hearing, but six votes are required to adopt the motion.

This move comes on the heels of the Superior Planning Commission denying several requests regarding the project. With these moves, progress on the project has seemingly reached a standstill. What comes next in the process is still uncertain.

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Power plant structures dating back to 1900 will be demolished at the former Anoka State Hospital campus in **Anoka**. The tunnels that provided central heating and water to the cottages will also be demolished. Several of the cottages on the historic campus are still in use by Anoka County Human Services.

On April 4, **Brainerd Public Utilities' (BPU)** Water and Wastewater Manager Charlie Gammon gave an interview to the Brainerd Dispatch about the city's water service line inventory. As of that date, about 40 percent of BPU's customers had completed a survey from BPU about their water service lines. Of the 2,177 responding customers, nine of their service lines were lead and 238 were galvanized, which also could possibly include lead materials.



Detroit Lakes Public Utilities announced that as of now, sampling from the city's aquifers is showing that per- and poly-fluoroalkyl substances (PFAS) are not a problem in the city's drinking water.



Moorhead Public Utilities and the Moorhead Fire Department held simulated chemical leak training on April 24 and 25. The training's purpose was to enhance response skills and ensure employees are prepared for emergency situations.

In April, the League of Women Voters in **New Ulm** held three different speaker events regarding energy conservation. The first forum, on April 4, saw Derek Nelson from **New Ulm Public Utilities (NUPU)** speak on the rebates, incentives, and solar programs available from the utility. Turner Hall's Executive Director Andrea Boettger also spoke about working with NUPU while doing renovations at Turner

Hall, a historic building in the city. Other events saw speakers discuss topics like solar power and energy savings through different plumbing and heating strategies.



Rochester Public Utilities hosted its 22nd annual Arbor Day Celebration on April 20. The



event included live music, family activities, and free trees that community members could take home to plant.

On April 22, **St. Cloud** signed off on an agreement with **Foley** to receive that city's wastewater. St. Cloud also currently collects wastewater from **Sartell, Sauk Rapids, St. Augusta, St. Joseph,** and **Waite Park**.



On April 25, Representative Pete Stauber toured the **Hibbing Public Utilities** biofuel plant and also visited the city's water plant.

On April 4, Southwest News Media said that the *Chaska Herald*, *Chanhasen Villager*, and *Jordan Independent* would publish their last editions on April 25. The *Shakopee Valley News*, the *Prior Lake American*, and *Savage Pacer* will produce their last edition on April 27, with the *Hutchinson Leader* and the *Litchfield Independent Review* publishing their last editions on April 24. The papers were all owned by Denver-based MediaNews Group, which purchased the papers in February of 2020.



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The Nigerian Government said on April 2 that the country would reduce its \$2.6 billion electricity subsidy for 15 percent of consumers. Nigeria is feeling increased pressure on its public finances, sparking the move.



On April 4, the Ford Motor Company announced it will be delaying production of two new electric cars and will instead begin making more hybrid vehicles.



Russian attacks in Ukraine in late March and early April have hit up to 80 percent of Ukraine's conventional power plants and half of its hydroelectric plants, according to Ukrainian energy minister German Galushchenko. Russian troops are using explosive drones and missiles to carry out most of the energy sector attacks.

On April 11, the European Parliament adopted a proposed reform in the European Union's electricity market that changes the electricity market design and modifies power prices so they are less tied to fossil fuels. The moves are expected to minimize power pricing volatility.

On April 20, *The Guardian* reported that whistleblowers in the United Kingdom have said water companies in the country are knowingly failing to treat wastewater and are dumping raw sewage into waterways at a high rate.

On April 22, Earth Day, President Biden announced \$7 billion in federal grants for residential solar projects that would be aimed at assisting 900,000 households in low income and disadvantaged communities.

On April 23, the Iraqi Minister of Electricity, Ziyad Ali Fadel, announced that the country would be working with General Electric to modernize power plants around Iraq starting next June.

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According to a report from the Global Energy Monitor, the country of Egypt leads the Arab world as the producer of solar and wind energy. Egypt produces a combined 3.5 gigawatts (GW) of renewable power, compared to the United Arab Emirates at 2.6 GW, Morocco at 1.9 GW, Jordan at 1.7 GW, and Saudi Arabia at 0.78 GW. Egypt plans to produce 42 percent of its power from renewable sources by 2035.

In late April, Tanzania shut down five hydropower plants temporarily because the electricity being generated was in excess of power needs on the country's power grid.

On April 26, a wastewater plant worker in El Paso, Texas, was killed after becoming trapped in a confined space. Some 26 firefighters responded to the accident.

On April 26, a federal appeals court ruled that New York can move forward with a law requiring internet service providers in the state to provide discounted rates as low as \$15 a month to low-income residents. If they fail to do so, the companies may face fines from the state.



On April 29, Vogtle Unit 4, a nuclear reactor, began commercial operation at the Vogtle Electric Generating Plant in eastern Georgia. It joins Vogtle Unit 3, which began commercial operation in 2023, and Vogtle Unit 1 and 2, which began commercial operation in 1987 and 1989, respectively.

On April 30, energy ministers from the Group of Seven (G7) major democracies sealed the final deal on an agreement that G7 countries will close their coal power plants by 2035. The G7 includes Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.

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A new look for MMUA: the Association unveils new web platform for a better member experience

The MMUA website will look quite different when you visit it in June!

We are in the process of transitioning to a new association management system, including a fresh look for the website and a new online membership platform that brings MMUA up to speed with the rest of the industry. We are excited for you to see it!

What's new

When you visit the new mmua.org, you will notice an immediate difference in the look and feel of the website. It's been completely overhauled to be fresher, more consistent with best practices in the 2020s, and more easily navigable for users on phones, tablets, and desktop devices. You will find an improved directory function, a

more robust library of resources and tools, and clearer depictions of the events, services, and products offered by MMUA. The new look is exciting, and we think it will make your visit easier.

We are also eager for you to use the new member platform behind the login screen. Your Member Compass will be a hub for all your MMUA engagement activities. You will notice a simpler process for registering for events, improved invoicing capabilities, and more customizable profile information.

That's not everything. In the fall, we will launch a "communities" service connecting you to peers across Minnesota by role, interest group, region, and more. These groups will be ideal spaces for sharing questions, resources, and experiences amongst the people who under-

stand your challenges and know best what may be helpful to you.

How to get access

To get the most out of your member experience, you will need to create a new login. Your previous username and password will not work on the new website. The process to create a new account is simple. To do that, visit mmua.org and look for the login button in the upper left corner. Enter your email and follow the prompts. If the email entered is connected to your profile, you'll be prompted to set your new password. If we do not have the email on file in our system, you'll be prompted to create a new account. Once you've logged in, you'll be taken to your Member Compass—the new portal where you can update your profile, see events

that you are registered for, pay invoices, and more. Be sure to update your profile—it will make you more interesting to your peers when you start interacting with the communities this fall.

We are excited to provide you with a better online member experience through this new platform. We encourage you to explore the website and set up your Member Compass soon after June 1, as we are confident you will appreciate the streamlined experience.

We'll ask you for feedback on the changes in the coming months and continue to refine what we are doing to better meet your needs. If you have any immediate questions and comments, you're welcome to reach out to Christian Glanville at cglanville@mmua.org.

EPA releases new power plant standards



On April 25, the United States Environmental Protection Agency (EPA) released the final versions of four new power plant rules.

The most is a rule requiring that all coal-burning power plants and new baseload gas-fired power plants expected to operate past 2039 will be required to eliminate 90 percent of their carbon emissions by 2032. Plants that are retired by 2039 have to reduce their emissions by 16 percent by 2030. Plants that are retired by 2032 are not affected by the new rules.

The EPA also moved to update the emissions standards for coal plants in other areas, with a rule that requires plants to cut toxic metals emissions by 67 percent, and to cut mercury emissions as well. The two other rules require reduced wastewater discharge from coal plants and better control of coal ash, the material produced from burning coal.

Approximately 200 coal-burning power plants still operate in the United States.



Upcoming events

Utility Leaders Workshop: Interacting on the Issues

June 6—Hutchinson
June 13—Brainerd
June 26—Blue Earth
June 27—Alexandria

Intended audience: utility commissioners, city council members, and utility leaders.

Join the MMUA government relations team and peers from your region to discuss the implications of new laws, explore important utility issues, and network with others committed to protecting, promoting, and strengthening hometown utilities in the coming years. Visit mmua.org/events/calendar for more information.

HR Quarterly Update: HR topics and changes for municipal utilities

Thursday, June 27 at 10:00
Online

Join Shelly Dau, MMUA's Organizational Development and Human Relations Manager, for the first edition of a quarterly series of human resources webinars.

The first webinar will include information about the Pregnant Workers Fairness Act and guidelines for its implementation. Shelly will also ask for HR questions and topics of interest. Christian Glanville and Rita Kelly of MMUA will also demonstrate MMUA's new website and membership platform.

Summer Conference and Trade Show

August 19–21
Holiday Inn Fargo

The Summer Conference will be held in Fargo and Moorhead this year! This is MMUA's flagship event, and the 2024 conference theme is "Stronger Together." Learn about the challenges facing the industry and connect with fellow utility leaders. Learn more by visiting mmua.org/event/summer-2024. Register by July 20 for the best rate.

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