

Northeast Minnesota municipals agree to contract with MP

by Steve Downer

It is mission accomplished for the Northeastern Minnesota Municipal Power Agency (NEMMPA), with members recently signing new wholesale power contracts with Minnesota Power (MP).

NEMMPA was incorporated decades ago but reconstituted itself in the spring of 2019, with the purpose of securing a new wholesale contract. The effort started in recent years as the municipals worked to coordinate the terms of their individual MP contracts. This allowed the agency members to negotiate as a group, which proved to be a successful strategy.

Adding urgency to the effort was the impending expiration of most members' MP wholesale power contracts. The previous contracts typically extended through the end of 2024.

The new contract took effect Jan. 1 of this year and extends to Dec. 31, 2029.

NEMMPA President Greg French, general manager of Vir-

ginia Public Utilities, said members experienced an overall rate reduction effective Jan. 1 compared to the old contract. New contract rates, with a transparent adjustment mechanism, are set through the end of the contract.

French noted that the five-year extension saves money compared to other known contracts in the region and maintains the long-standing relationship between the municipal utilities and Duluth-based MP.

"It's spectacular—I can't describe it any other way," said City of Ely Clerk-Treasurer/Operations Director/Civil Engineer Harold Langowski. "We accomplished a lot with our power agency."

NEMMPA members are predominately long-time MP wholesale customers, are on the MP transmission system, and inhabit the same region as MP's customers. MP has long supplied various services to the municipals, including distribution maintenance for many of

the smaller utilities.

That led to a close working relationship. And as in most relationships, there were issues.

Relationship issues

Brainerd Public Utilities (BPU) was a long-time MP wholesale customer but broke from the pack when it let lapse a full-requirements purchase contract in 2019. BPU then entered into a full-requirements, market-based rate agreement with AEP Energy Partners, Inc. that will remain in place from 2019 through May 31, 2031.

The ownership of local generation has also been a sticking point. Municipally-owned generation has long existed on the Iron Range, most notably in Hibbing and Virginia, but MP has long sought to control generation in its area.

In 2014, Brainerd asserted its rights when the City and BPU purchased the 3.3-megawatt Brainerd hydroelectric project from Wausau Paper.

During the new contract's

term, the municipals agreed to purchase their full electric service requirements from MP. There is a carve-out from this requirement for an MP solar project, which the individual members may subscribe to.

Another issue involved MP's "formulary rate," which the Federal Energy Regulatory Commission (FERC) approved in 2008. MP sought the rate, it said, to offset rising costs. While FERC found MP's rate calculation "just and reasonable" the municipals objected to the increased and highly-variable costs.

Langowski said that Ely's fuel adjustment charges totaled over \$400,000 last year, and some months comprised more than 20 percent of a customer's bill. That led to many irate phone calls and Facebook posts.

The new contract's annual adjustment is designed to level out monthly variations due to short-term market conditions.

NEMMPA: see page 5 please

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THE RESOURCE

Official Publication of the
Minnesota Municipal Utilities Association

MMUA

March 2022
Volume 27, No. 3

Periodicals
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Reliability report leads to regulatory call for Xcel to study sale of service territory

The Minnesota Public Utilities (MPUC) accepted the 2020 Safety, Reliability, and Service Quality reports of Xcel Energy, Otter Tail Power Company and Minnesota Power on Jan. 13. The MPUC also set company reliability standards for 2021.

In addition, responding to a concern over a decade-long reliability slide in Xcel's Southeast Work Center and calls from the Department of Energy Resources (DER) that Xcel investigate selling portions of its territory, the MPUC took a half step: requiring the company to examine, in its current rate case, distribution system spending and maintenance in the Southeast Work Center compared to other areas of the Xcel service territory.

The reliability reports are required under Minn. Stat. 216B.029, "Standards for distribution utilities," which requires all utilities to adopt standards for safety, reliability and service quality. Municipal utilities are also required to make annual reports, to their local governing body. Municipal utility standards, according to the statute, "should be as consistent as possible" with standards set for state-regulated utilities.

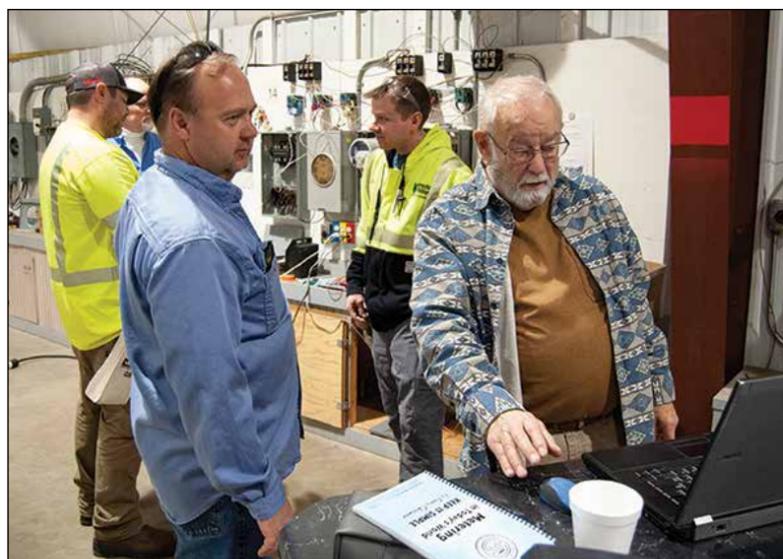
The state's investor-owned utilities (IOUs) report reliabil-

ity results under Minn. Rules 7826.0500. This includes outage tracking metrics like System Average Interruption Duration Index (SAIDI), System Average Interruption Frequency Index (SAIFI) and Customer Average Interruption Duration Index (CAIDI). The IOU reports also include various information including staffing levels and bulk power supply interruptions.

Utilities report "normalized" SAIDI, SAIFI and CAIDI by work center and statewide. In 2019, the MPUC required all utilities to use the Institute of Electrical and Electronics Engineers (IEEE) 1366 standard (also known as the 2.5 Beta method) for normalizing Major Event Days, characterized by large outages.

Historically, the MPUC directed utilities to use a rolling five-year average of SAIDI, SAIFI and CAIDI for each of their work centers. The MPUC 'froze' standards for utilities at the prior year's level if there was not sufficient improvement. Otter Tail's standards were frozen at 2013 levels and Minnesota Power's at 2016 levels. Xcel had standards for the Southeast Work Center held at 2017 levels.

Reliability: see page 8 please



Instructor Larry Chapman (right) and Kaukauna (Wisc.) Utilities Meter and Control Technician John Teale worked on a problem at the Meter School.

Meter School and Pre-Conference draw 72 to MMUA Training Center

It was all about metering Feb. 22-25 at the MMUA Training Center in Marshall, as we held our annual Basic Metering Pre-Conference and Meter School.

The sessions were well attended, with 72 registering. That number included 14 people from South Dakota or Wisconsin municipal utilities or two small Wisconsin investor-owned utilities (IOUs). In addition, 11 attended from seven electric cooperatives.

The Pre-Conference started after lunch on Feb. 22 with classroom instruction. A half-day session on the 23rd focused

on hands-on work. These two half-days served as an introductory or refresher course on the "the basics" of metering.

Some of the topics covered included Blondel's Theorem, common metering formulas, self-contained metering and troubleshooting.

The Meter School started after lunch on the 23rd. To accommodate various levels of knowledge two tracks were provided: the Basic/Intermediate Class and the Advanced Class.

The Advanced Class was held

Meter: see back page please

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In Alexandria, local municipal utility powers and connects local community

By **Bobbie Osterberg**
Alexandria Mayor

Editor's note: The following article is reprinted with permission and first ran in the Alexandria Echo Press.

What literally powers the City of Alexandria and keeps us all connected? ALP Utilities of course! The municipally owned utility, founded in 1889, provides electricity and water to the residents of the city. Local visionaries founded the utility just seven years after Thomas Edison started up the Pearl Street Power Station in New York City. Alexandria's locally owned, operated, not-for-profit utility provides unique benefits for its customer-owners.

Communities are powered by one of three types of utilities. They are a cooperative, an investor-owned or a municipally-owned public power utility like ALP Utilities.

Investor-owned utilities are regulated by the Public Utilities Commission (PUC). As a public power utility, ALP is governed by a local board of directors. Board members are

appointed by the Alexandria City Council. They live and work here. The board makes policy and strategic decisions affecting the utility. Revenues are generated from the sale of electricity and water. Profits are re-invested into the operational and capital needs of the business and the community. Nothing exemplifies "Buy Local" more than being powered by a municipally owned utility.

Affordable rates and reli-

ALP's 2020 average outage time was 12 minutes, compared to the industry average of 139 minutes.

ability are performance indicators used to measure the success and effectiveness of all three types of providers. ALP Utility customers with a monthly residential usage of 750 kwh/month would pay \$79.75/month. The customer of the investor-owned utility would pay 17 percent more



Photo courtesy of Widseth Smith Nolting

Minn. Hwy. 29 doubles as Broadway Street in downtown Alexandria, just north of Interstate 94.

and the customer of the cooperative would pay 46 percent more than the ALP Utilities customer. The cost to provide electricity is a factor when determining rates. ALP Utilities has consistently demonstrated public power's ability to provide low cost, highly reliable service.

There are 2,000 public power utilities in the United States. According to the American Public Power Association e-Reliability Tracker, ALP's 2020 average outage time was 12 minutes, com-

pared to the industry average of 139 minutes. Significant investments of time and capital are made each year to ensure ALP's award-winning standard of reliability is maintained at a low cost to the customer-owner.

ALP Utilities fun facts:

- Utility crews place, remove, repair and store the festive Christmas street decorations each holiday season.

- More than \$18,000 in scholarships have been awarded through the LeRoy Meyer Memorial Scholarship to graduating seniors that live in the ALP service area.

- ALP contributes nearly \$1 million annually to the city budget as a payment in lieu of taxes. This directly reduces property tax.

- 2022 marks the third consecutive year with no electrical rate increase.

- ALP Utilities buys electricity generated by solar, water, wind, natural gas, coal and nuclear to power Alexan-

dria. The diverse mix allows ALP to provide electricity that is 83 percent carbon-free and 39 percent renewable.

- Customers may elect to have 100 percent renewable power through participation in the Bright Energy Choices program. This program is optional and supports 100 percent clean and carbon free electricity to the home or business. Customers find the cost of participation to be a great value when considering environmental impact.

- Over \$2.9 million in rebates have been distributed to ALP customers through the Bright Energy Solutions program. Rebates are earned by purchasing energy efficient equipment such as Energy Star LED lighting and appliances, electric vehicle chargers and heating and cooling equipment. Commercial customers qualify for rebates and have additional categories such as electric forklifts, compressed air and commercial refrigeration.

As our city looks forward to the bright future of energy, the locally managed, highly reliable ALP Utilities will continue to play an important role in keeping us connected and making Alexandria the place people choose. To learn more about ALP Utilities: www.alputilities.com or 320-763-6501 or publicinput@alexandriamn.city

"In the Know" is a rotating column written by community leaders from the Douglas County area.



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MMUA The Resource USPS #009836. ISSN: 1080-3750 is published Monthly; except combined July/August, by MMUA at 3131 Fernbrook Lane North, Suite 200, Plymouth, MN 55447-5337. Periodicals postage paid at St. Paul, MN. POSTMASTER: Send address changes to MMUA The Resource, 3131 Fernbrook Lane North, Suite 200, Plymouth, MN 55447-5337. Annual subscription rates: \$12 per subscription (included in dues), associate members, \$12 (included in dues). 3131 Fernbrook Lane North, Suite 200, Plymouth, MN 55447-5337. Phone 763-551-1230, members 1-800-422-0119. FAX 763-551-0459.



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Our big survey says: good convention content could be even better

Knowledge has to be improved, challenged, and increased constantly, or it vanishes.

— Peter Drucker

At the end of 2021 MMUA conducted a comprehensive survey of our stakeholders. Nearly 500 people took the time to give us feedback, and we are very grateful for the information and insight it provides to us. This month, I'd like to home in on one area the survey covered: conferences and conventions.

MMUA's summer conference in August each year draws around 300 total attendees, while the Technical and Operations Conference, that is, the T&O, is usually around half that size.

We were heartened that 81 percent of respondents who have attended these events in the past were either "likely" or "very likely" to recommend them to others. Comments like these were common:

"I always learn something new."

"These [events] are a valuable way to get our industry together to discuss current and future issues ... a great way to meet colleagues and build relationships."

"Content is pretty good. Networking is excellent!"

If this were a school grade, 81 percent would earn us a "B" from most instructors. Solid. But there's room for improvement for sure. Some of the less glowing comments pointed to areas we need to look at. Here are some representative examples:

"Nobody cares to see [a repeat of the same old stuff.] The agenda never changes."

"...it would be nice to see more water/wastewater and gas topics included; there is such a focus on electric."

"... topics are presented in a way to attempt to influence [my] opinion rather than to develop [my own] opinion based on the realities of running a small utility or city."

To sum it up, the survey respondents seemed to be saying this: "Your conventions and conferences are good – now make them better."

In looking at things we can do to make improvements to our conventions, it is important not to "throw the baby out with the bathwater," as my grandmother used to say. A lot of what we do now is valued. We want to keep that and build on it.

Since most of the requests for improvement addressed programming content, that's where we're making changes first. We want to give you, our members and attendees, a bigger voice in what subjects are covered at the events as well as, to some extent, how they are covered. There are two things you should know about as we begin to make that happen.

First, we will use a more open process for gathering ideas regarding program content. Four to five months before these events, we will issue a Call for Proposals (CFP). The CFP will list some general concepts we think are important for the

year and specifically ask for suggested presenters on those topics. But the subject matter for the event doesn't stop there.

Any member—regular, affiliate, associate, or some combination—can propose an idea for the event or offer suggestions for presenters. Whether you have knowledge you'd like to share, feel like suggesting a subject area that hasn't been mentioned, or you want to offer your connection with a speaker you know about, we hope you will respond to the CFP. Doing that won't be complicated.

Once we get your suggestions, we'll build the program accordingly. It will be a "happy problem" if we get more ideas than we can use. If that occurs, we'll expand our offerings at the event if space and time allow, or we'll repurpose those ideas in the coming months to meet your learning needs.

Second, the Board of Directors has recently approved MMUA's first-ever policy on educational content. It has been modeled on similar policies used throughout trade associations and professional societies. We'll include the full text with the CFP, but here's a short excerpt.

"The organization's educational and training material will present legal/regulatory requirements, industry standards, emerging issues, and best practices in an unbiased manner. When more than one method of doing something is both lawful and generally accepted

From My Desk to Yours

Karleen Kos
MMUA CEO



as a best practice, multiple methods will—to the extent practical—be presented or acknowledged. During educational sessions, speakers shall be expected to not endorse specific products and should refrain from using brand names. [...]

MMUA will offer opportunities for its associate members to promote products and services to the membership. These opportunities will be clearly labeled and promoted in a manner that distinguishes them as promotional or commercial, rather than educational in purpose."

We know that networking with our vendors is an important and highly valued

part of MMUA's large events. That will not change. We also know that our associate members are knowledgeable experts in a variety of disciplines relevant to municipal utilities, and they will continue to be welcomed as speakers at our events. The purpose of our new policy is to give everyone confidence that the educational content at MMUA events is unbiased, noncommercial information that utility personnel can use in their jobs.

I am looking forward to meeting many of you at our August 2022 Summer Conference. Watch your email for the CFP at the end of March!

Solar billing error leads to refund

The Minnesota Public Utilities Commission Feb. 17 approved a variance from state billing variance rules for Dakota Electric Association (DEA), which requested approval of a refund for a non-residential customer who had been overcharged beginning January 2017, the time at which their on-site solar Distributed Energy Resource (DER) with a capacity >60kW was activated. The overcharge was due to an incorrect application of standby charges as well as minor coding errors. These errors resulted an overcharge of \$9,437.97.

With sales tax, a total refund of \$10,423.65 including interest, was due.

The state's billing variance rule (Minnesota Rule 7820.3800 Electric Utility Billing Errors) does not apply to municipal utilities, but may be considered reasonable for most situations.

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The **Pierz City Council** is looking ahead, approving a feasibility study for 2024 street and utility improvement projects.

The city plans to partner with Rich Prairie Sewer and Water District (RPSWD) on the project, possibly including full reconstruction of the streets, sidewalks, sanitary sewer, water and storm water improvements.

Both the city and RPSWD will assess a portion of the project costs to those property owners who will benefit from the work. The cost of the feasibility study, which is expected to be complete mid-June, is \$20,000, to be split evenly between the city and RPSWD.

The **Preston Public Utilities Commission** at its Feb. 15 meeting named Jim Bakken as utility general manager. Bakken previously served as public works director. Bakken takes the utility reins from City Administrator/Utilities Director Joe Hoffman, who is moving on to serve as Chief External Affairs Officer for the Southern Minnesota Municipal Power Agency (see page 12).

A \$6.9 million street project in **Alexandria** is moving forward as the city council on Feb. 14 approved going out for bids. Along with the construction, reconstruction and realignment of various streets, old water and sewer lines will be replaced and a lift station eliminated. Project costs will be split between ALP Utilities, Alexandria Lake Area Sanitary District, and the City of Alexandria

Around the State



stormwater utility, with federal and state aid funds.

Iron Range Resources & Rehabilitation recently reported Community and Development Infrastructure grants to two MMUA members.

The **City of Mountain Iron** was awarded a Community Infrastructure grant to improve its water system in order to continue providing clean, safe drinking water and fire protection. The project entailed rehabilitating a 400,000-gallon water tower, installing a new water filtering system to replace a 40-year-old system, drilling a new well to mitigate potential future contamination, and carrying out maintenance on current wells.

The **City of Two Harbors** was awarded a Development Infrastructure grant to help pay for site preparation related to water, sewer, storm sewer and electrical that will support construction of Lake Superior Dental.

Grant amounts vary and require a one-to-one match.

The **Lac qui Parle County** “computer commuter” bus service, initiated in 2010 with a grant from the Blandin Foundation, is set to end June 30 as funding for the program runs out. The bus stopped each week in the cities of Madison, Dawson, Boyd, Bellingham, Marietta and Nasau. Visitors learned



photo courtesy of Virginia Department of Public Utilities

The Virginia Department of Public Utilities combined heat and power plant has been an area landmark for decades. The site includes the municipal water plant, office headquarters and associated facilities.

VPU has been moving forward on multiple fronts

Along with a new wholesale power supply contract, several long-term projects are wrapping-up for the Virginia Department of Public Utilities (VPU).

The VPU Commission provides electricity, steam, natural gas and water.

A new 7.5-megawatt substation should be in service this spring. This will be Virginia’s sixth substation. The VPU electric distribution system serves just over 5,000 electric customers.

The district heating system has been reduced from a peak of roughly 3,000 customers in the 1960s to approxi-

mately 250 customers located primarily in and around the downtown business district. For several years, VPU has been working to reduce steam losses in the remaining downtown core district. VPU has plans to re-evaluate the viability of the core district in 2023.

Prior to the steam conversion project, which began in late 2017, district steam was provided by extraction from cogeneration turbine/generators. This is no longer economical and VPU has phased out of power generation.

To better supply the right-sized steam system, VPU

has installed a small 50,000 pounds per hour natural gas steam boiler to be able to handle anticipated steam loads, and will install an additional boiler, sized the same, during 2022 to provide system redundancy and low-end production capability.

The VPU natural gas system has been growing and serves approximately 3,200 customers. The utility has two town border stations. The main border station was upgraded in 2017 and a small station was installed to serve a remote section of town in 2018.

how to use computers and the internet.

Many enjoyed the weekly visits. The county now enjoys widespread fiber optic broadband internet access.

The Minnesota Public Utilities Commission issued an amended site permit for

Zephyr Wind for the Community South Wind Repower Project in **Nobles County** on Feb. 17.

The Applicant’s proposed repowering for 15 turbines includes the removal of the old nacelles and blades, installing an adapter on top of the existing towers,

followed by the placement of new nacelles resulting in an increased hub height and longer blades resulting in an increase in the rated capacity of each turbine from 2,050 kW to 2,200 kW, an increased rating capacity from 30.75 MW to 33 MW.

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NEMMPA:

continued from front page

MP will determine the adjustment. Cost projections and true-ups will be the same as those proposed in MP retail rate cases and approved by the Minnesota Public Utilities Commission.

Adjustments for individual agency members will be based upon their system peak at the time of the agency peak. This is designed to soften fluctuations for individual members and may give the members another point of common interest in the years ahead.

Valued relationship

While its members value their relationships with MP, NEMMPA was intent on getting the very best wholesale power contract for its members and the customers they serve. There were plenty of informal discussions with various power providers. The agency stopped just short of issuing a Request for Proposals, however, with a meaningful offer from MP on the table.

“Long-standing relationships have a lot of value,” Langowski said. “Collectively, working as an agency has its advantages.”

In a region that combines devastating summer storms and harsh winters, working

The 13 NEMMPA members that executed the agreement include:

- Aitkin
- Biwabik
- Buhl
- Ely
- Gilbert
- Grand Rapids
- Keewatin
- Mt. Iron
- Pierz
- Proctor
- Randall
- Two Harbors
- Virginia

together is a must. Like the municipals, MP has employees across the region, noted Julie Kennedy, general manager of Grand Rapids Public Utilities (GRPU) and the NEMMPA secretary-treasurer.

When a severe storm pummeled Grand Rapids the evening of July 26, Kennedy’s first call for help went to MP. After taking care of its own outages, MP sent two crews to Grand Rapids, where they worked alongside GRPU and MMUA-organized mutual aid crews for three days.

“We are very interconnected,” Kennedy said. Along with the various agreements between the municipals and MP, “Many of their employees live in our communities.”

MP provides various servic-

es to certain NEMMPA members. The wholesale contract preserves these individual member arrangements for other local MP services and extends these arrangements to the end of 2029.

The municipals will own, operate and maintain substations or other necessary equipment to interconnect with MP’s transmission or distribution system. MP will own and maintain the metering equipment and necessary switches.

Transmission costs are a straight pass-through, a carry-over from the old contract.

The NEMMPA Board established a negotiating committee to conduct negotiations on behalf of all members. Negotiations began in early 2021. The NEMMPA board contracted with Dave Berg Consulting to handle the face-to-face negotiations and report back. Contracts were executed in late 2021.

The agency owns no resources and has no staff. NEMMPA assembled a group of consultants and advisors. Dave Berg took the lead on negotiations and contract development. Kaela Brennan of McGrann Shea Carnival Straughn & Lamb served as contract review attorney. Public affairs were handled by Costin Group.

Frank Frederickson, MP’s Vice-President of Customer Experience, said “The health and vitality of our regional municipal customers is very important to us, and we have proudly served the NEMMPA members for decades. Our account managers listened closely in a sincere effort to

learn what they valued, as well as what they wanted to change, and that feedback went into the contracts we signed. We are grateful to have earned the opportunity to continue the reliable and affordable service our municipal customers deserve and expect.”

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Many municipals standardize reporting with APPA's eReliability Tracker software

Municipal electric utilities have tracked reliability for years using a variety of means, including self-developed spreadsheets. But the current standard is the eReliability Tracker Annual Report, created by the American Public Power Association (APPA) to assist utilities in their efforts to understand and analyze their electric system.

The APPA report focuses on distribution system reliability across the country and is customized to each utility.

Reliability, noted APPA,

reflects both historic and ongoing engineering investment decisions within a utility. Proper use of reliability metrics ensures that a utility is not only performing its intended function, but also is providing service in a consistent and effective manner.

Even though the primary use of reliability statistics is for self-evaluation, utilities can use these statistics to compare with data from similar utilities. However, differences such as electrical network configuration, ambient environment, weather

conditions, and number of customers served typically limit most utility-to-utility comparisons. Due to the diverse range of utilities that use the eReliability Tracker, the report groups utilities by size and region.

Industry standard metrics are found in the Institute of Electrical and Electronics Engineers (IEEE) 1366 Guide. For each individual utility, the eReliability Tracker performs IEEE 1366 calculations for System Average Interruption Duration Index (SAIDI), System Average Interruption Frequency Index (SAIFI), Customer Average Interruption Duration Index (CAIDI), Momentary Average Interruption Frequency Index (MAIFI) and Average Service Availability Index (ASAI).

Utilities may analyze major events (MEs) differently. An example of a major event includes severe weather, which can lead to unusually long outages in comparison to a typical outage.

In the eReliability Tracker, the APPA major event threshold is used, which is a

calculation based directly on the SAIDI for specific outage events, rather than daily SAIDI. The major event threshold allows a utility to remove outages that exceed the IEEE 2.5 beta threshold for outage events, which accounts for the utility's past outage history up to 10 years.

If a utility does not have at least 36 outage events prior to the year being analyzed, no threshold is calculated.

Only utilities who subscribed to the eReliability Tracker service are eligible for the APPA Certificate of Excellence in Reliability, which recognizes utilities with SAIDI in the top quartile of their peers based on federal Energy Information Administration data.

Minnesota municipal Recipients of Excellence in Reliability 2020 included:

- ALP Utilities (Alexandria)
- Anoka Municipal Utility
- Austin Utilities
- Blooming Prairie Public Utilities

- Brainerd Public Utilities
- Chaska Public Utilities
- City of Barnesville
- City of Litchfield
- City of Luverne
- Detroit Lakes Public Utilities
- Elk River Municipal Utilities
- Fairmont Public Utilities Commission
- Jackson Municipal Utilities
- Le Sueur Municipal Utility
- Marshall Municipal Utilities
- Melrose Public Utilities
- Moorhead Public Service
- New Prague Utilities Commission
- New Ulm Public Utilities
- Olivia Municipal Utilities
- Owatonna Public Utilities
- Princeton Public Utilities Commission
- Sauk Centre Public Utilities Commission
- Shakopee Public Utilities Commission
- St. Peter Municipal Utilities
- Wadena Light & Water Dept.
- Worthington Public Utilities

Mid-Minnesota copper and nickel mine gains DOE, Tesla, multi-national funding

According to various sources, on Feb. 14 the Department of Energy (DOE) announced an award of \$2.2 million to finance exploration of carbon storage potential at the Tamarack nickel joint venture in Aitkin County.

DOE is teaming with Rio Tinto on the study. Rio Tinto, a multi-national mining company, will contribute \$4 million in funding for the three-year project in Minnesota.

Rio Tinto has reportedly assembled a team to explore new approaches in carbon mineralization technology as a way to safely and permanently store carbon as a rock.

The process is reportedly being used at a large scale by the world's leading carbon mineralization company Carbfix in Iceland.

The DOE money comes from its ARPA-E Innovation Challenge.

In related news, Talon Metals Corp. through its U.S. subsidiary Talon Nickel, on Jan. 10 announced it has entered into an agreement with Tesla Inc. for the supply and purchase of nickel concentrate to be produced from the Tamarack Nickel Project.

Tesla has committed to purchase 75,000 metric tonnes (165 million pounds) of nickel in concentrate, representing a portion of the metals projected to be produced from the Tamarack Nickel Project. Other terms are also in place.

Talon is a joint venture with Rio Tinto on the high-grade Tamarack Nickel-Copper-Cobalt Project located in central Minnesota. In July, Talon reached an understanding with the United Steelworkers whereby the parties outlined a number of ways that they will work with, and support, one another.

Media reports noted Talon has yet to begin the permitting process.

To quote the Duluth *News-Tribune*, "Like other proposed copper-nickel mines throughout northeastern Minnesota, environmentalists are worried about the potential for acid forming when sulfides meet oxygen to leach into the environment. The mine would sit within the Mississippi River watershed."





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Municipals take slightly different paths to reliability but share common motivation

There are three kinds of lies: lies, damned lies, and statistics. — Mark Twain

When discussing the idea of ordering Xcel Energy to study selling some of its southern Minnesota service territory due to deteriorating reliability, an advocate for the idea admitted that it would be hard to make meaningful comparisons with adjacent utilities due to a lack of data.

MMUA, in its never-ending quest to advance public discourse, has obtained some readily-available information on the subject.

Numbers can tell a story, but reliability comparisons are imprecise.

Imprecision is baked into the reporting. A service interruption of less than five minutes is not counted as an outage, under the state rule.

Also, utilities routinely “storm normalize” data, which allows the subtraction of large outages, depending on certain parameters. The eliminating of “major events” from the reliability calculations has long been practiced by investor-owned utilities and is now programmed into some tracking software used by municipals (see article on facing page).



Locally-based employees and, in many cases, local electric generating plants bolster the reliability of the state’s municipal electric utilities, like Blooming Prairie Public Utilities.

Momentary interruptions are presumably more common and of varying levels of concern, depending on customer class. This is certainly a reliability issue and data is collected by some parties but is not one of the indices to be tracked under state law.

As Worthington Public Utilities (WPU) Electric Superintendent Pat Demuth said, comparing municipal reliability numbers to a big

investor-owned utility is “hardly apples to apples.”

For starters, WPU does not “storm normalize” its data. It also counts outages it takes as part of system maintenance. That is how WPU missed its 2021 CAIDI goal.

WPU has also counted transmission outages in its historical totals. With transmission upgrades in the area, 2020 and 2021 were the first two years in a decade that

Worthington did not have any incidents of lost transmission service.

Other factors play into the numbers. The WPU distribution system, for example, is entirely underground. But should that be dismissed? “That was a decision we made,” said Demuth, and the utility and its customers pay for it and also reap the benefits.

Occasionally falling short

of its standards doesn’t mean the WPU Commission changes them. It remains committed to the standards it set in 2006.

WPU has 5,465 customers, six full-time linemen and hires a seasonal worker to help with summer projects.

Lines rebuilt underground

Seven Minnesota municipal utilities contract maintenance of their distribution systems to crews employed by their power agency: Missouri River Energy Services (MRES). MRES lineworkers are located in the cities, each of which has a sterling reliability record.

Jeff Becthold is the electric distribution superintendent for MRES crews. Cities his crews serve are putting distribution systems underground, some on a more aggressive schedule than others.

For example, Lakefield Public Utilities has budgeted \$1 million to rebuild an overhead line to underground this year. That’s a lot of money for a utility with 1,020 customers.

Becthold and the members he works with look at their

Municipals: see page 9 please

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Citing faltering reliability, regulators broach subject of Xcel service area sale

In MPUC Reliability Reporting briefing papers, Department of Energy Resources (DER) staff expressed concern over reliability and service quality in Xcel Energy's southern Minnesota service area.

DER staff said its analysis and observations over the past several years suggests that the 'business as usual' approach historically recommended on reliability matters is "inadequate in terms of prompting Xcel to dedicate the resources necessary to improve customer reliability metrics associated with its Southeast Work Center."

That led the DER to begin considering other avenues for improving customer reliability for electric customers served by that work center.

The simplest alternative from its perspective, DER said, would be for Xcel to "rationalize the service territory" served by the Southeast Work Center by selling some portions of it to neighboring electric utilities.

The DER suggested Xcel model the effects of selling some portion or portions of

the territory served by the Southeast Work Center in the 2021 or 2022 reliability report.

Xcel said it was "premature" to perform this analysis, but the DER continued to support its recommendation, noting that persistent reliability concerns were a driver for the sale of Alliant Energy's Minnesota service territory in 2015.

Xcel pointed out that the Southeast Work Center is geographically its largest, spanning from portions of Yellow Medicine County—about 30 miles from the Minnesota-South Dakota border—on the west to the Minnesota-Wisconsin border on the east. The largest service center is Mankato, stretching 120 miles from Jordan on the northeast to Bergen on the southwest.

Depending on the location of the outage, the time of day, and the distance travelled it could take over two hours for the person on call to arrive at the outage location and then additional time to restore service, said Xcel.

DER said "The distances

associated with the Southeast Work Center suggest that rationalizing the service territory served might improve system reliability." However, when DER asked Xcel about that idea, the company responded that it "had not considered selling a portion of its more rural service territory to improve system reliability."

MPUC staff said there were other ways the Commission could require Xcel to improve reliability before considering the drastic option of requiring a sale of portions of its service territory.

Xcel further explained, "Although the reliability in more rural areas has not been as good as urban areas, we are committed to improving the reliability in these areas."

MPUC staff noted it is unclear if selling portions of Xcel's service territory would improve reliability for those customers without knowing the reliability performance of surrounding utilities.

Additionally, said MPUC staff, customers would be moving to utilities not regulated by the state and could have other changes that

Region & Metric	2020 Standard	Results normalized	Results non-normal.
Minnesota			
SAIDI	103.00	98.92	134.19
SAIFI	1.06	0.99	1.07
CAIDI	108.00	100.28	124.89
Metro East			
SAIDI	89.95	104.98	124.02
SAIFI	0.84	1.01	1.07
CAIDI	106.91	103.69	115.72
Metro West			
SAIDI	79.37	88.82	143.84
SAIFI	0.79	1.00	1.13
CAIDI	100.55	88.53	127.72
Northwest			
SAIDI	87.11	121.94	133.55
SAIFI	0.75	0.93	0.98
CAIDI	115.72	130.98	135.77
Southeast			
SAIDI	94.82	105.07	122.43
SAIFI	0.76	0.87	0.92
CAIDI	122.04	120.29	132.38

would impact them, such as changes in rate structures or access to utility rebates and programs.

Reliability:

continued from front page

In 2020, the MPUC transitioned from using a rolling five-year average for benchmarking purposes to the IEEE 1366 Distribution Reliability Working Group data.

The MPUC used the IEEE benchmark for 2020 service territory-wide standards but maintained utilities' previous work center reliability standards.

The new IEEE benchmarking standard, noted MPUC staff briefing papers, would allow Minnesota utilities to improve upon their reliability standing by comparison to their national peers.

The MPUC set MP and OTP standards utilizing the IEEE second quartile data based on medium-sized utilities and at the large utility benchmark for Xcel.

The reports had other information, including number of lineworkers per work center and impediments to collecting data on other indices including momentary outages.

Minnesota Power

The MPUC froze MP's reliability standards at 2016 levels after it fell short of its SAIDI and SAIFI targets for 2015 and 2016. The company met its SAIDI and CAIDI standards for 2020 but not the SAIFI standard.

The company reported that weather and equipment failure were the primary reasons for not meeting its reliability goals. MP's SAIDI, SAIFI, and CAIDI increased over the past 10 years but 2020 saw improvement as equipment and other failure points were reduced. MP reported overhead equipment failure now causes 14 percent of annual outages.

Minnesota Power 2020 Reliability Results

Metric	SAIDI	SAIFI	CAIDI
2020 Standard	124.8	1.12	109.8
Normalized Performance	122.51	1.22	100.50
Non-normalized	179.43	1.42	126.13

Otter Tail

Regulatory documents note OTP saw success in achieving its SAIDI and SAIFI goals at the statewide level but failed to achieve all three goals since 2018. The Department noted the company's regression in its SAIDI and SAIFI performance over time reversed what had been an overall improving trend of the past decade.

Overall, Otter Tail's reliability indices are mainly flat or slightly increasing over the past 10 years. No days qualified for exclusion as Major Event Days in 2020.

Xcel

Xcel met three of 12 reliability goals for 2020, all in the CAIDI category. While an improvement from meeting 17 percent of 2018 goals, it is still a decline from prior years, noted MPUC staff.

Xcel proposed benchmarking its two Metro work centers based on the IEEE standard for large utilities. For its two rural work centers it proposed the IEEE standard for medium utilities.

Xcel will continue to provide quarterly updates on reliability improvement efforts for the Southeast Work Center.

Otter Tail Power 2020 Reliability Results

Region & Metric	2020 Std.	2020 Actual
Minnesota		
SAIDI	128.00	107.66
SAIFI	0.98	1.40
CAIDI	123.00	76.72
Bemidji		
SAIDI	70.64	55.48
SAIFI	1.26	1.27
CAIDI	56.06	49.22
Crookston		
SAIDI	69.33	140.47
SAIFI	1.19	1.5
CAIDI	58.26	93.63
Fergus Falls		
SAIDI	66.97	110.48
SAIFI	1.11	1.42
CAIDI	60.33	77.57
Milbank		
SAIDI	75.49	169.89
SAIFI	1.82	2.00
CAIDI	41.48	84.94
Morris		
SAIDI	55.78	118.19
SAIFI	1.01	1.39
CAIDI	55.23	84.71
Wahpeton		
SAIDI	57.24	329.50
SAIFI	1.13	4.33
CAIDI	50.64	76.04

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SMPMA members 2020 IEEE Statistics

Utility Name	w ME		w/out ME	
	SAIDI	SAIFI	SAIDI	CAIDI
Austin Utilities	22.95	0.36	9.61	63.91
Blooming Prairie Public Utilities	25.28	0.48	25.28	52.4
City of Litchfield	2.63	0.03	2.63	90.00
Fairmont Public Utilities Commission	41.14	0.2	10.19	200.52
New Prague Utilities Commission	0.11	0	0.11	78.00
Owatonna Public Utilities	26.8	0.37	12.19	72.99
Princeton Public Utilities Commission	10.43	0.27	10.43	39.11
St. Peter Municipal Utilities	62.71	0.76	62.71	82.38

ME means Major Events. Numbers given are in minutes.

Municipals: continued from page 7

reliability numbers every year, circuit by circuit. That generally provides a roadmap for needed investment.

The agency is also involved in generation upgrades with members, including a recent project with the City of Luverne. That is a further layer of reliability.

The municipals take it seriously.

“We have some big projects for the year,” Bechtold said. “It is going to be very busy.”

New poles for BPPU

While putting the distribution system underground is an obvious reliability strategy, Jerry Mausbach, general manager of Blooming Prairie Public Utilities (BPPU), takes a different path.

No slouch when it comes to reliability, the BPPU elec-

tric distribution system is 67 percent overhead. New developments are served underground.

A program for timely pole replacement is a big factor in BPPU’s reliability, Mausbach said. It’s a systematic approach. The utility’s long-range Capital Improvement Plan (CIP) effectively budgets replacement of the entire distribution system—not including substations or the power plant—over a 40-year period.

A CIP budget needs to be “realistic and sustainable,” Mausbach said. The Blooming Prairie utility has just over 1,000 electric customers, so its CIP is also relatively small, \$77,000 out of total annual expenses of \$3 million.

“It’s in small bites,” Mausbach said, to help keep rates stable.

Money is only part of the story. BPPU economizes and ensures quality by doing much of the work with its own

staff, including four people to handle the water and electric systems. Mausbach helps out with certain systems.

That doesn’t mean BPPU doesn’t get involved in bigger projects. Local generation has been improved and transmission ties have been strengthened in recent decades. BPPU recently built a substation in a new industrial park. Most of the line work was done by the utility’s employees.

Motivation the real key

In the end, the biggest factor in municipal electric reliability isn’t whether a system is overhead or underground, it is motivation.

Being locally-owned and operated organizations, municipal utility policymakers and staff not only have a career interest in their city’s success, they have a personal stake in the community in which they have chosen to raise their families and build life-



Municipal utilities provide mutual aid to each other in the event of widespread damage. Municipals are proud of their mutual aid response, often coordinated by MMUA. This mutual aid exercise took place at last year’s MMUA Overhead School.

long relationships. Because of this, the utility’s interest in the well-being of its community and devotion toward

maintaining a high quality of life is more than a corporate slogan, it’s the foundation of their business philosophy.

Worthington Public Utilities performance 2018-2021

	2018	2019	2020	2021	Goal
SAIDI:	1.406	4.178	11.477	6.195	10.00 or less
SAIFI:	0.029	.079	0.283	.064	0.33 or less
CAIDI:	48.387	52.288	40.521	97.14	60.00 or less

Reliability indices—SAIDI, SAIFI, CAIDI—defined

The common reliability indices, defined:

SAIDI: System Average Interruption Duration Index. SAIDI is calculated by dividing the sum of all customer minutes of interruption annually by the average number of customers served during the year.

The Worthington Public Utilities numbers include scheduled and unscheduled calculations and all major events. The MRES numbers include all outages, except transmission outages, which are tracked separately. Where major events are excluded, the major event threshold removes outages that exceed the IEEE 2.5 beta threshold for outage events.

SAIFI: System Average Interruption Frequency Index. SAIFI is calculated by dividing the number of customer interruptions by the average number of customers served during the year.

CAIDI: Customer Average Interruption Duration Index. It is calculated by dividing the sum of all customer minutes of interruption by the number of customers that ex-

perienced interruptions during that time period.

ASAI: Average Service Availability Index is the ratio of the total number of cus-

tomers that service was available during a given time period to the total customer hours demanded.

MRES members 2020

Barnesville

SAIDI	SAIFI	CAIDI	ASAI
26.169	0.563	46.516	0.9999

Benson

SAIDI	SAIFI	CAIDI	ASAI
12.288	0.0644	190.677	0.9999

Luverne

SAIDI	SAIFI	CAIDI	ASAI
0.283	0.00472	60.0	0.9999

Ortonville

SAIDI	SAIFI	CAIDI	ASAI
6.738	0.287	23.454	0.9999

Jackson

SAIDI	SAIFI	CAIDI	ASAI
2.699	0.0439	61.428	0.9999

Lakefield

SAIDI	SAIFI	CAIDI	ASAI
0.685	0.0162	42.399	0.9999

Olivia

SAIDI	SAIFI	CAIDI	ASAI
4.166	0.0551	75.561	0.9999

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Heightened global tensions renew cyber-security vigilance of water utilities

from FITCH WIRE

Fitch Ratings-Austin/New York

Recent steps taken by the U.S. federal government to bolster cyber resiliency across the water sector are an important start in mitigating rising cyber risks for publicly-owned utility systems, Fitch Ratings said Feb. 10.

The White House and Environmental Protection Agency (EPA) announced on Jan. 27 a new “action plan” that aims to encourage water utilities to adopt technology that detects cyber threats to industrial control systems (ICS), such as supervisory control and data acquisition (SCADA) applica-

tions. ICS systems were not generally engineered with cyber resiliency in mind and remain vulnerable to cyber intrusions. The federal plan recognizes that the reliance of the water sector on ICS, and the susceptibility of these systems to infiltration, constitutes a national security concern.

The federal government will initially pilot the program with utilities serving the largest population centers. The program will help utilities in their efforts to identify, report and address cyber vulnerabilities, with support from the EPA and the Cybersecurity

and Infrastructure Security Agency (CISA). Although the federal plan is unfunded, collaboration with the EPA and CISA may keep cyber security costs lower for utilities than if they were responsible for implementing cyber protections on their own. Technology improvement costs ultimately will be borne by the utilities and recovered from ratepayers.

The public water sector has not historically benefited from coordinated federal cyber defense strategy or support, with limited national mandatory standards to ensure progress on a nationwide basis. As a result, the levels of cyber resiliency and risk preparedness at the nation’s roughly 50,000 public water and wastewater systems vary widely. Water sector associations, such as the American Water Works Association (AWWA) and the Water Risk & Resilience Organization (WRRO), provided valuable cyber security guidance to their members in recent years but the programs have only a limited effect without robust legislative support.

In contrast, the power sector has been the focus of federal support and regulation for grid security and cyber resiliency for over a decade. Federal requirements for power utility cyber resiliency are set by the North American Electric Reliability Council (NERC) as part of its critical infrastructure protection (CIP) standards. The NERC-CIP standards have long been an effective bulwark of cyber resiliency for critical infrastructure and resulted in robust planning, regular federal investment and lower risk for the power sector.

Cyber risk can be an important consideration in the assessment of municipal utility systems’ credit quality. Cyberattacks that halt service, delay revenue generation, require ransomware payments,

In wake of Ukraine attack cyber warning issued

Russia’s attack on Ukraine, which has been accompanied by cyber-attacks, may have consequences for America’s critical infrastructure, warned the Cybersecurity & Infrastructure Security Agency (CISA) on Feb. 24.

CISA said every organization—large and small—must be prepared to respond to disruptive cyber activity. CISA recommends all organizations—regardless of size—adopt a heightened posture when it comes to cybersecurity and protecting their most critical assets.

or necessitate unexpected capital costs could negatively affect utility financial performance and result in widespread public and private sector shutdowns. Critical utilities are tempting targets for cybercrime, where successful breaches can be high impact, disruptive and lucrative.

Fitch considers whether utilities maintain cyber security policies and conduct training; budget for necessary cyber security investment; maintain adequate insurance against cyberattack; and have protocols for addressing cyber incidents. The inability to adequately protect infrastructure from

an attack is considered in our public utility criteria as part of our assessment of the quality of management and governance, which is an asymmetric risk where weaker characteristics may constrain a rating.

The federal effort to bolster water utility cyber resiliency is timely, as the Department of Homeland Security (DHS) warned in a Jan. 23 memorandum that operators of public infrastructure could be increasingly targeted as a result of geopolitical tensions. Similar warnings were issued by the Federal Bureau of Investigation and CISA in the past several weeks as global conflicts intensified.

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Power grid concerns include twin threats of severe weather, cyber-security

The North American Electric Reliability Corporation (NERC) released its 2021 Annual Report in February.

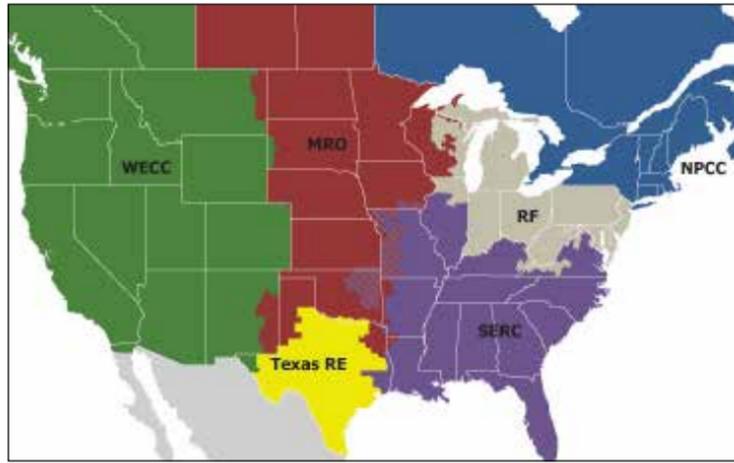
In introductory comments, NERC President and CEO Jim Robb said 2020 and 2021 brought significant clarity to two major risks facing the bulk power system: vulnerability to climate change-driven weather events and cyber-security issues.

What has become known as Winter Storm Uri in February 2021 showed the tragic consequences that result from long-duration outages under terrible weather conditions. The second major issue was

the steady discovery of supply chain cyber-security vulnerabilities. There were multiple high-profile ransomware events and digital, inverter-based resource performance issues.

Robb said, “As the power grid continues to transform into more decentralized, decarbonized, and digitized structures, we must all be mindful that preserving reliability, improving security, and strengthening resilience need to continue to be top priorities for all of us.”

He noted that NERC’s Long-Term Reliability Assessment showed a “sobering



NERC includes six Regional Entities. They are the Midwest Reliability Organization (MRO), Northeast Power Coordinating Council (NPCC), Reliability First (RF), the Southeast Reliability Corporation (SERC), Texas Reliability Entity (Texas RE) and the Western Electric Coordinating Council (WECC).

amplify them. This need will only grow as more solar photovoltaic generation and battery storage resources are deployed on the system.

Change needs to be carefully managed, said Robb.

The cyber security landscape continues to evolve, noted the NERC report. There has been a large increase in the frequency and sophistication of malicious cyber activity.

This reality, coupled with the ever-increasing attack surfaces associated with the digitization of the resource base and the expansion of industrial control systems, said Robb, “suggests that we all have our work cut out for us in the coming years.”

reliability outlook for many areas of North America.”

The bulk power system model was developed during a time when risks were well-known and the grid was evolving at a measured pace; we are now in a time where significant risks are emerging, they are new and unfamiliar, and the grid is transforming at a significant pace, said Robb. Updating the existing model to get ahead of emerging risks and avoid catastrophes like the February outage event or June’s Colonial Pipeline attack is a crucial task.

A key focus for NERC in 2021 was weatherization—made even more important with the addition of new technology that is more susceptible to extreme weather.

NERC’s combined report on February’s outage found that “extreme events are having greater impacts . . . on the rapidly transforming grid.”

NERC now warns of the potential for the loss of large amounts of generating resources due to severe weather in winter and summer as well as the potential need for grid operators to employ operating mitigations or energy emergency alerts to meet energy and peak demand. Grid operators have consistently signaled the need to be cognizant of reliability issues during the transition to a cleaner energy future and the need to manage the pace of change.

Amid this rapid transformation, security threats continue to evolve. “In what can only be described as extraordinary, the past year has seen the manifestation of each of these risks, all while industry continues to navigate the challenges of the ongoing global pandemic,” Robb said.

Inverter-based resources continue to be a concern during times of system instability—a topic Robb said NERC has been working on since

2016. An important lesson is the need for inverter-based resources to “ride through” system disturbances and not

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Hoffman leaves Preston to join SMMPA as its Chief External Affairs Officer

Rochester, MN – Joe Hoffman will join Southern Minnesota Municipal Power Agency (SMMPA) as the Director of Agency and Government Relations & Chief External Affairs Officer on March 1. He replaces Chris Schoenherr who is retiring from SMMPA on April 1 after over 40 years in the energy industry and seven years with the Agency.

Hoffman was also recently an MMUA board member. He was elected in August 2020, but has resigned upon taking his new position.

Since 2004, Hoffman has served as City Administrator

& Utility General Manager at the City of Preston, Minnesota. In addition to overseeing all city and utility operations, he developed and implemented a multi-year plan to obtain \$35 million in state and federal funding to construct a State Veterans Home in the community.

Prior to joining the City of Preston, Hoffman served as Executive Director for the

MDH offers cyber-security tips for water operators

From Minnesota Department of Health Waterline Spring 2022

The U. S. Environmen-

tal Protection Agency (EPA) and the Water Information Sharing and Analysis Center (ISAC) held a series of webinars for water professionals. The webinars covered ways hackers gain initial access and exploit known vulnerabilities.

The webinar presenters offered these tips:

• Use long passwords (at least 18 characters) and do not reuse passwords nor variations of them.

• Back up data. Isolate backups from the network and rotate physical backup media offsite. Test the restoration process if the backups are needed.

• Surge support: Minimize gaps in staff coverage, especially during holiday seasons.

• As part of preparation, have contact information for staff and responders updated and readily available.

• In case of an attack, respond by isolating affected systems.

• Recovery, if there is an attack, involves eradication and restoration. Having paper copies of information may be important in these situations.

Other tips:

• Avoid pop-ups and emails from suspicious or unknown people.

• Check the URL of sites. Type in a URL rather than clicking on the first link found in a search engine.

• Keep your software updated.

• Be aware of the latest cybersecurity trends and new malware.

More information:

American Water Works Association on Cybersecurity

EPA Cybersecurity Best Practices for the Water Sector

Joe Hoffman

Dave Geschwind, SMMPA Chief Executive Officer. "Joe knows SMMPA, our members, and the utility industry, making him an excellent fit for this position. We look forward to his proven leadership in helping SMMPA and its municipal utility members meet the needs of their customers."



Joe Hoffman

Hoffman holds a Bachelor of Science degree in Public Administration from Winona State University.

Geschwind also congratulated Schoenherr on his long and successful utility industry career. "We're fortunate to have had Chris here at SMMPA for the last seven years of his career. He's made a long-lasting positive impact on the Agency in his relatively short time here."

SMMPA provides electricity and related services to 18 municipally operated utilities, mostly in south-central and southeastern Minnesota.

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Transmission-dependent municipals weigh in on MISO tariff change

The Midcontinent Independent System Operator (MISO) on Jan. 13 presented an outline of changes it will make to comply with Federal Energy Regulatory Commission (FERC) Order 2222—including removing a 10-megawatt size limit for demand response aggregators participating in the wholesale electric markets.

The FERC order requires that MISO and other grid Independent System Operators/Regional Transmission Organizations (ISOs/RTOs) allow distributed energy resources (DERs) to provide all wholesale services that they are technically capable of providing through an aggregation of resources.

MISO's compliance filing is due to FERC April 18.

Whatever MISO proposes, it won't be an overnight change. MISO's tariff is over 7,000 pages and it will need to make substantive tariff changes to comply with the Order, including in energy, ancillary services and capac-

ity markets. There will be a future FERC filing, software and business practice manual updates and training, deployment and a review of outcomes.

There was no lack of opinions on the filing.

Joint comments were filed by Missouri River Energy Services, Southern Minnesota Municipal Power Agency, Midwest Municipal Transmission Group, Great Lakes Utilities, Madison Gas and Electric Company, Missouri Joint Municipal Electric Utility Commission, Southwest Louisiana Electric Membership Corporation, and WPPI Energy, referred to collectively as the "Midwest Transmission-Dependent Utilities (TDUs).

The TDUs expressed concern over a variety of issues relating to the potential for the exercise of market power.

The FERC order imposes key requirements for the DER aggregators. Perhaps chief among them is that the DER becomes a FERC juris-

dictional utility. Distribution utilities can assess wholesale distribution charges on DER aggregators.

DER aggregations, including qualifying facilities, will be subject to state interconnection requirements rather than the ISO queue process.

If a utility has less than 4 million MWh sales in prior fiscal year, MISO must accept DER aggregator bids but only

with relevant utility regulatory approval (this includes the governing boards of municipal utilities). Most Minnesota municipal utilities adopted resolutions to protect them in this regard several years ago.

FERC declined to exercise jurisdiction over DER interconnection to utility distribution systems, but may revisit the issue if the process is used as a barrier to entry.

MMUA updates model distributed generation tariff forms for adoption

MMUA has completed a process for revising the templates it offers members for their: 1.) Rules Governing the Interconnection of Cogeneration and Small Power Production and Small Power Production Tariff filing with the utility's local governing body, and 3.) DER Interconnection Process.

These updated documents have been emailed to our utility contacts and are also available in the "MY ACCOUNT" section of the MMUA homepage.

The updated Rules are suit-

able for adoption by the utility's governing body.

By adopting this revised Tariff form, your governing body will also be adopting the "Minnesota Municipal Interconnection Process (M-MIP) 2022" in replacement of your utility-specific DER Interconnection Process through Schedule 3's incorporation of the M-MIP by reference.

The M-MIP will be available for public viewing and, if desired, linking from your utility website.

Utilities should also print copies of, at least, the M-MIP's Process Overview

A Distributed Energy Resource (DER) is any resource located on the distribution system, sub-systems or behind the meter. These resources may include but are not limited to: electric storage resources, distributed generation, demand response, energy efficiency, thermal storage, and electric vehicles and their supply equipment.

manual, Simplified Process manual, Simplified Interconnection Application, and Uniform Contract and make them available for inquiring customers at the utility office.

For more information contact bblack@mmua.org or bjagusch@mmua.org

Small nuclear project advances in Idaho

From APPA

A project to develop and deploy a first-of-a-kind small modular reactor nuclear power plant is advancing at the U.S. Department of Energy's Idaho National Laboratory near Idaho Falls, Idaho. The project is being led by Carbon Free Power Project, LLC (CFPP), a wholly owned subsidiary of Utah Associated Municipal Power Systems (UAMPS).

According to the UAMPS website, the project will be comprised of 77-megawatt nuclear power modules. Options are being evaluated for power plant size, "including the 4-pack, 6-pack, 8-pack or 12-pack module configurations." Energy from the project will replace electric generation from coal plants that are nearing the end of their life cycles. CFPP will enable UAMPS and its members to add significantly higher amounts of intermittent renewable energy, especially wind and solar, to energy portfolios. The CFPP, combined with renewables, will enable many members to completely decarbonize their energy portfolios, said UAMPS.

CFPP successfully and safely completed field investigation activities at the site in January 2022.

The project is also moving forward with the development of a combined license application in accordance with requirements of the U.S. Nuclear Regulatory Commission (NRC).

Completion of the combined license application and submittal to the NRC is scheduled for early 2024. Startup and commissioning of the CFPP is planned for 2029.

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Dairyland, NuScale agree to evaluate small nuclear plants

On Feb. 24, NuScale Power and Dairyland Power Cooperative announced the signing of a memorandum of understanding (MOU) to evaluate the potential deployment of NuScale's advanced nuclear technology.

La Crosse, Wisc., based Dairyland is a generation and transmission cooperative providing the wholesale electrical requirements for 24 distribution cooperatives and 17 municipal utilities, supplying the energy for more than a half-million people in four states (Wisconsin, Minnesota, Iowa and Illinois).

Under this MOU, the two parties will work together to explore NuScale's small modular reactor technology and support Dairyland's due diligence process in evaluating affordable, reliable and carbon-free energy solutions.

In support of Dairyland's existing portfolio, NuScale's VOYGR™ power plants are flexible and able to perform load following maneuvers to meet grid capacity needs due to the intermittency of wind, solar, and hydro generation, facilitating the growth of renewables. Additionally, NuScale's technology is particularly well-suited for placement at retiring coal plant sites, preserving critical jobs in the energy industry and helping host communities facilitate the transition to a decarbonized energy system.

Dairyland's Class A members include Minnesota cooperatives Freeborn Mower, People's and MiEnergy. Class D members include the Minnesota municipal utilities Lanesboro and St. Charles. Class E members include numerous Wisconsin municipal utilities while Class E members include NSP Minnesota and the Southern Minnesota Municipal Power Agency.

About NuScale Power

NuScale's small modular reactor (SMR) technology is offered in scalable sizes, including 77 MWe NuScale Power Modules™ (NPM), using a safer, smaller, and scalable version of pressurized water reactor technology. NuScale also offers smaller power plant solutions, the four-module VOYGR-4 (308 MWe) and six-module VOYGR-6 (462 MWe), though others will be possible. With an array of flexible power options, NuScale is poised to meet the diverse energy needs of customers across the world. The majority investor in NuScale is Fluor Corp.



Professional Services Directory

The North Dakota Industrial Commission approved a \$5.4 million grant for a final engineering study related to the Project Tundra carbon capture project, on Feb. 22.

The study is expected to wrap up by the end of the year. The project aims to capture carbon emissions from a coal-fired power plant and bury them underground.

Minnkota Power Cooperative will provide matching funds, with a contribution from one of its partners, Fluor Enterprises.

The Federal Energy Regulatory Commission (FERC) in mid-February voted 3-2 to approve two permitting policies for interstate natural gas infrastructure, one that revises the agency's project certification process and another creating a new framework to scrutinize greenhouse gas emissions.

The Indiana House Committee on Utilities, Energy and Communications approved Senate Bill 271, which allows and incentivizes the construction of small modular nuclear reactors in the state, and Senate Bill 411, which provides local government incentives to adopt renewable energy system siting standards.

The Department of Energy's (DOE) Civil Nuclear Credit Program will get an infusion of \$6 billion through the Infrastructure Investment and Jobs Act. The program is envisioned to help keep commercial U.S. nuclear reactors online as a carbon-free resource. Guidelines for disbursement of the funds are being drawn up.

With an eye on accessing federal funds, a bill has been introduced in Nebraska's unicameral legislature (LB 1100) that calls for a feasibility study on where new advanced small nuclear reactors might be placed across the state. Reliability and reduction of emissions are drivers for the bill.

The Tennessee Valley Authority board of directors voted 5-0 Feb. 10 to spend up to \$200 million to prepare for the potential construction of a nuclear-powered small modular reactor (SMR) designed by GE Hitachi. The money would fund the pre-application process at the Nuclear Regulatory Commission.

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Cold weather enveloped Texas in early February. The electric grid withstood the cold snap. Gas-fired power plants reportedly suffered few outages while up to 6.6 gigawatts of nameplate wind capacity went offline due to icing.

In Moss Landing, Calif., firefighters responded to another battery meltdown at the Vistra Energy Storage Facility Feb. 13. When they arrived roughly 10 battery racks were melted.

It's the second incident at the plant in the last five months alone.

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1 www.bls.gov/oes/current/oes499051.htm | 2 www.bls.gov/oes/2017/may/oes499052.htm
3 www.bls.gov/oes/2017/may/oes47152.htm

Meter:

continued from front page

for those with a good working knowledge of metering. This course combined in-depth instruction with practical hands-on exercises, some of which were suggested by participants. This class focused heavily on troubleshooting a variety of challenging metering setups, then applying load to determine if correctly configured.

The Basic/Intermediate class built on the Pre-Conference and included more hands-on training.

Instructors for both schools included Larry Chapman and staff from Chapman Metering. They have served as instructors at the Meter School for many years and were joined by John Pollard from TSTM, Inc. Pollard has more than 25 years of experience in the metering field and is the Director of Technical Opera-



Hands-on training with expert instructors was a big part of the Meter School program.



Lenny McCall of Chapman Metering talked with a group of participants.



MMUA's Bruce Westergaard (back to camera) made a point with an interested group.

tions for TSTM.

Additional instructors included Bruce Westergaard, Cory Raveling and James Monroe of MMUA.

Some of the topics covered included:

- Why we have electric meters
- Single phase meters & meter forms
- Current transformers & voltage transformers
- Electric meter safety.

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Upcoming Events

Substation School

April 5-7, MMUA Training Center, Marshall

The substation is arguably the most important piece of your electrical system. MMUA is pleased to partner with Minnesota Rural Electric Association (MREA) on this year's School.

In addition to classroom instruction on a variety of substation-related topics, participants will go behind the scenes and tour the Marshall Municipal Utilities' newest substation



Registration deadline is March 14.

Generation School

April 19-21, Hutchinson

Generation School offers participants valuable classroom and hands-on instruction plus networking opportunities for generator operators and technicians. Whether a seasoned operator or just starting out in the field, all can benefit.



This year we will offer in-plant, hands-on instruction Cooper, Enterprise and Fairbanks Morse engine sets. Plus we'll tour Hutchinson Utilities Diesel Plant.

Deadline to register is March 28.

Underground School

May 10-13, MMUA Training Center, Marshall

The Underground School offers a hands-on training track with a variety of training sessions and also an advanced technical course. Whether you are a seasoned Journeyman looking to stay current or are an Apprentice just starting out, this school offers something for everyone.



Those in the hands-on Multi-Session Class will rotate through six different sessions, covering a variety of topics that can enhance safety and improve efficiency.

Deadline to register is April 18.

Competent Person & Excavation Safety Workshop

May 24-25, MMUA Training Center, Marshall

Mark your calendar now for this important school!

For more information, see the Events Calendar at www.mmua.org or call MMUA at 763-551-1230.