

The RESOURCE

Official Publication of the
Minnesota Municipal Utilities Association



October
2017

Volume 24, No. 20

MMUA
3025 Harbor Lane North
Plymouth, MN 55447
763.551.1230

MMUA, APPA begin effort to move 'Public Power Forward'

The electric utility industry has entered a new period of change and transformation, driven by technological innovation and changing customer preferences.

This requires new thinking about the relationship among consumers, utilities, and other providers of energy services, including distributed energy, community solar, storage, customer load management, and energy efficiency. Utilities are also being challenged by the financial pressures caused by slow load growth, rapid changes in the relative prices of generation resources, and the ongoing concern over climate change

and other environmental goals.

This creates opportunities and challenges for the electric utility industry—particularly smaller publicly owned electric utilities—where meeting customer expectations for new services while maintaining the current high standards in reliability and affordability may not be easily accomplished.

How should public power respond and plan for the future?

It stands to reason that by joining forces at the state and national level, we can bring our combined resources to bear to support municipal utilities.

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Detroit Lakes dedicates solar 'garden'

Detroit Lakes Public Utility General Manager Vernell Roberts (foreground), said a few words as the utility, along with its partners from Missouri River Energy Services and Clean Energy Resource Team, dedicated a 'community solar garden' on Oct. 3. The solar dedication was one event in the afternoon devoted to wise energy use. For more, see page 8.

Minnesota municipals pitch in with Hurricane Irma mutual aid effort

by Steve Downer

Over the course of a week and a half in mid-September, Minnesota municipal electric crews traveled halfway across the continent and took part in one of the largest power restoration efforts in U.S. history.

Hurricane Irma hit Florida on Sept. 10 and knocked out power to 6.7 million electricity customers—64 percent of all customer accounts in the state—according to the Florida Division of Emergency Management. The Florida Municipal Electric Association reported that more than 800,000 public power customers in more than 20 counties lost power. All 34 of Florida's public power

utilities were affected.

The American Public Power Association (APPA) asked the Minnesota Municipal Utilities Association (MMUA) to organize electric system 'mutual aid' crews to head for Kissimmee, Florida in anticipation of substantial storm recovery work that was anticipated in the wake of Irma.

Minnesota crews were being called on in advance of the storm because 'Public Power' systems in the Southeast were either helping with Hurricane Harvey storm recovery in Texas, or keeping their crews at home in

Mutual Aid: see page 7 please



Minnesota municipal electric crews contributed mightily to power restoration efforts in Florida. In this picture from Lake Worth, crew members (including Jeff Bechthold of MRES, center facing camera), discussed work.

Roots run deep

Legacy of service carries on with another Bechthold at St. James Public Utility

by Steve Downer

Roots run deep in many municipal utilities, and that is certainly the case in St. James.

TJ Bechthold was named superintendent of St. James Public Utility in February. He is no stranger to the utility—he started working there as a lineman in 2012. A native of the St. James area, he grew up around the utility. His dad—Jeff—was also the St. James superintendent, from 1993 to 2006. Jeff Bechthold currently oversees several municipal electric utilities as Distribution Superintendent for Missouri River Energy Services (MRES).

(Both TJ and Jeff were among the linemen responding to the

Hurricane Irma mutual aid effort. Another brother—Chris—works as a lineman for a Minnesota electric cooperative.)

TJ isn't quite sure when he decided he wanted to be a lineman—he grew up around it and it was always in his mind. After graduating from St. James High School, TJ graduated from the lineworker program at Minnesota West Community and Technical College in Jackson.

He went to work for Federated Rural Electric, in Jackson, before joining St. James.

The city has a five-man electric crew. Along with being responsible for the electric dis-

St. James: see page 6 please



TJ Bechthold (left) and Pat Oja took a break from work one damp day this summer, in front of the utility's warehouse and office spaces.

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Forward:

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To that end, the Minnesota Municipal Utilities Association (MMUA) and the American Public Power Association (APPA) have entered into the Minnesota Public Power Forward Partnership. Missouri River Energy Services (MRES) and Southern Minnesota Municipal Power Agency (SMMPA) have joined the team to provide the joint action agency perspective. The idea is to use Minnesota as a test bed and proving ground to develop the resources that public power systems will

need—using examples from the state and national level—to take action on the following three practical areas.

- **Rate Design.** Public Power utilities have historically relied upon rate designs that use kilowatt-hour sales to recover fixed costs. These rate designs often subsidize residential customers at the expense of commercial and industrial customers. The design also leaves utilities vulnerable in the event of an influx of significant distributed generation (DG) on their system.

An influx of DG can lead to revenue recovery challenges. There are some relatively

simple steps we can begin to make today to strengthen our systems by reforming our rate designs. Rate design options for utilities to make up a potential revenue shortfall include increasing fixed charges, instituting a residential demand charge, time-of-use pricing, and two-metered billing.

An assessment of current rate designs will be undertaken. Based upon that study and lessons learned from barriers to updating rate designs, project participants will develop a rate design strategy that will lay out rate design options, schedules to pursue change and an identification of necessary resources.

- **New Technologies** — We must understand how new technologies — particularly distributed generation, demand response, and energy storage — will impact our systems. While there is not currently much customer demand in our cities for these technologies, they are gaining traction in some places and we do expect that demand to arrive in many public power service territories over time.

We should investigate the economic and reliability dimensions of these technologies by supporting pilots in our communities.

- **Information Technology (IT)/Operations Technology (OT)** — Public power utilities can use IT and OT tools such as AMI, Meter Data Management, smart CIS systems, SCADA, and GIS to collect, manage, and use data to support customers. As the world becomes increasingly digitized, public power utilities have the opportunity to build a technology foundation.

The challenge before public power utilities today is how to develop, design and implement strategies to build a foundation in these three areas.

The good news is that many public power utilities across our country are already making significant progress in responding to this challenge. But many more have found this transition to be challenging and have not yet been able to develop strategies to respond.

“Minnesota is great place to start,” said Dan Ebert, execu-

tive consultant for APPA and Hometown Connections. “The state association, joint action agencies and members across the state have already made significant strides in identifying the issues and designing and implementing strategies.”

Paul Zummo, of the American Public Power Association, said, “We want to take the best of what is already happening at the state level, add in the experience of all the best happening at the national level and ensure every Minnesota public power community has the resources they need.”

For those utilities that are not on the front lines of the emerging battle with the Solar Cities and Googles of the world, we have the time to build a foundation for the future.

By the end of 2018, most municipal utilities, on their own or in partnership with another entity, will have an actionable strategy document. To what extent they adopt these strategies, and the timing, will be up to each utility.

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tneddermeyer@mmua.org

Director of Training and Safety

Mike Willetts, mwilletts@mmua.org

Natural Gas Circuit Rider

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Regional Safety Group Program Leader

Mike Sewell, msewell@mmua.org

JT&S and Apprenticeship Instructor

Mike Taylor, mtaylor@mmua.org

Regional Safety Coord./JTS Instructors

Bruce Westergaard,

bwestergaard@mmua.org

Shane St. Clair, sstclair@mmua.org

Generation Coordinator/JTS Instructor

Bob Sewell, bsewell@mmua.org

Training Center Coordinator/JTS Instructor

Cody Raveling, craveling@mmua.org

Mgt. Services and JTS Instructor

Rich Maxfield, rmaxfield@mmua.org

Regional Safety Coordinators

Janet Aultman, jaultman@mmua.org

Al Czczok, aczczok@mmua.org

Tom Ewert, tewert@mmua.org

Mark Hottel, mhottel@mmua.org

Robin Klug, rklug@mmua.org

Dave Lundberg, dlundberg@mmua.org

Marc Machacek, mmachacek@mmua.org

Ryan Mihalak, rmihalak@mmua.org

Joseph Schmidt, jschmidt@mmua.org

Kevin Thompson, kthompson@mmua.org

Chris Trembley, ctrembley@mmua.org

DOC recommends against pipeline project

While electric utilities have plenty to occupy them these days, the big energy story in Minnesota is the proposed Enbridge Line 3 pipeline replacement.

The Minnesota Department of Commerce recently came out against the project, a decision which immediately drew fire from a variety of sources, including state legislators.

The recommendation comes ahead of November

evidentiary hearings on the proposal, which will include another round of public hearings across the state.

The adequacy of the pipeline's final environmental impact statement is also under review.

Enbridge proposes to lay 340 miles of pipe, along a mostly new route, from Alberta, Canada to Superior, Wisc. The existing Line 3 is 50 years old and operating at half capacity.

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MMUA The Resource USPS #009836. ISSN: 1080-3750 is published 11 times a year, combining July-August, by MMUA at 3025 Harbor Lane North, Suite 400, Plymouth, MN 55447. Periodicals postage paid at Mpls., MN and other mailing offices. POSTMASTER: Send address changes to MMUA The Resource, 3025 Harbor Lane North, Suite 400, Plymouth, MN 55447. Annual subscription rates: \$12 per subscription (included in dues), associate members, \$12 (included in dues). 3025 Harbor Lane North, Suite 400, Plymouth, MN 55447. 763-551-1230, members 1-800-422-0119. FAX 763-551-0459.

Public Power Forward project will help us envision the ‘Utility of the Future’

by Paul Zummo

American Public Power Association

The electric industry is in a period of transformation. New technologies have emerged which both benefit and cause added stress to the existing electric grid infrastructure. This has created pressure for utilities – particularly smaller publicly owned electric utilities – in meeting customer expectations for new services while maintaining the current high standards in reliability and affordability.

Public power systems in Minnesota are not exempt from the challenges faced by the industry as a whole. In fact, many of the challenges may be worsened by the comparative smallness of Minnesota’s public power utilities. While the median size for public power utilities in the United States is just above 2,000 customers, the median in Minnesota is 1,266.

Despite the comparative lack of resources, Minnesota public power utilities are already implementing changes to adapt to the emerging

technology revolution. From smart rate design, to smart grid metering infrastructure, to community solar, Minnesota’s public power utilities have already shown their ability and willingness to enhance their current infrastructure. Yet there is much more to be done.

With that in mind, the Minnesota Municipal Utilities Association (MMUA) and the American Public Power Association have entered into the ‘Public Power Forward’ partnership, to assist Minnesota’s public power utilities as they plan for the future.

As a first step, MMUA recently surveyed its members to collect information about programs those utilities have already implemented or are considering implementing.

These programs will be considered and may well be widely adopted by the ‘Utility of the Future.’

The ‘utility of the future’ is a general concept related to the changing role of the electric utility. For years, electric service had been categorized by the concept of a vertically

integrated utility providing electric service to an end-use customer. There have been changes to this model over time.

New resources, particularly distributed energy resources (DERs), are fostering even greater changes or calls for change. Customers can self-supply electricity, usually through rooftop installed solar photovoltaic (PV) generation. They can also sell unused (or excess) generation back to the utility, meaning that distribution lines – designed for the one-way flow of power – are essentially called on to be two-way streets. This creates both financial and operating challenges for utilities.

Among these challenges are:

Rate Design

Public power utilities establish rates designed to yield revenues equal to their cost of service. For residential customers, rates have traditionally been relatively simple: a small customer charge (typically \$10 or less per month)

and an energy charge based on consumption, or kilowatt-hour (kWh) usage.

Distributed generation creates potential revenue recovery issues for utilities because the over-reliance on energy-related charges does not reflect the true nature of costs for utilities. While bills have very low fixed customer charges, a much higher percentage of a utility’s costs are fixed.

Normally, when a customer consumes less energy, this is compensated by lower costs in serving that customer. But distributed solar customers are generally compensated through net metering. Under this arrangement, energy delivered by the customer to the utility causes the meter to run backwards. At the end of the month, the customer’s net usage is then billed. In effect, a customer is compensated for excess generation at the retail rate of electricity.

Solar customers’ net electric usage diminishes and, under this arrangement, their bill is dramatically reduced because their volume of usage

is lower. Yet the fixed costs to serve that customer have not diminished even as the revenue recouped from them has. This leads to a subsidization from non-solar customers to solar customers, as the former must make up for the lost revenue from the latter.

Utilities have attempted to eliminate or diminish this subsidy through rate design changes.

The most straight-forward change is to recoup fixed costs through fixed revenues. It is a much simpler design for customers to understand. However, energy efficiency supporters argue that they undermine conservation efforts by making volumetric charges cheaper, while consumer advocates are concerned that they tend to most adversely affect low-use, and thereby low-income customers. And, raising customer charges is often politically unpopular.

Numerous other rate considerations are also under development study and will be considered as part of the ‘utility of the future’ process.

Other primary areas of work, which we will take a closer look at in coming months, include:

- Community solar: Utilities are already meeting customer demand for new forms of energy through community solar programs. There are a number of different ways to develop a community solar project. The pros and cons of the various methods will be studied and categorized.
- Electric vehicles: both a challenge and an opportunity for electric utilities.
- Demand Response and energy efficiency: well established and understood, these are anticipated to continue to play an important role in the future.

Enabling technologies help spur the advancement of new service offerings. These technologies include ‘smart’ meters, which generally refer to automated metering infrastructure (AMI). These two-way meters allow the utility to measure customer energy usage throughout the day and also provide various other benefits.

Metering and its ramifications will be analyzed, along with a variety of emerging technologies.

It is impossible to address all areas under consideration in this short space. We will keep you updated as this process move forward.

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MPUC allows additional fees on ‘qualifying facility’ interconnected with utility

The Minnesota Public Utilities Commission (MPUC) Sept. 21 found that it is permissible, under Minnesota rules and statutes, to impose an additional monthly fee on a ‘qualifying facility’ interconnected with an investor-owned utility.

There will be additional analysis as to what constitutes a reasonable fee in a related docket, looking at statewide interconnection standards.

The MPUC in 2015 opened the docket (15-755) to investigate which electric utilities were charging fees to qualifying facilities (QFs) that are not applied to other customers. The MPUC asked each utility in the state, including cooperative and municipal utilities, “whether it applies a charge to net-metered or dis-

tributed-generation customers that is not applied to other customers, and if so, when it began assessing that charge and in which docket(s), if any, the charge was approved by the Commission.”

Responses (including one on behalf of municipal utilities coordinated by MMUA) identified six utilities (three IOUs and three cooperatives) that charged additional monthly fees to QFs interconnected before July 1, 2015.

In a separate docket, the MPUC in 2017 provisionally approved monthly metering or service charges for customers with distributed generation as part of a broader consideration of the IOU revised cogeneration and small power production tariffs. Each tariff imposed a monthly metering fee on QF customers. The pro-

visional nature of the MPUC order stated it was not meant to prejudge the outcome of the 15-755 docket.

(Shortly after that order, the state Legislature passed a law that allows co-ops, like municipals, to adopt the MPUC’s rules and administer them locally.)

IOUs, not surprisingly, commented the monthly fees are permissible. QF advocates (including Fresh Energy et al, Energy Freedom Coalition of America, Minnesota Center for Environmental Advocacy and Sierra Club, Minnesota Solar Energy Industries Association and The Alliance for Solar Choice) argued that utilities are only allowed to recover incremental interconnection costs stated in the interconnection agreement or uniform statewide contract. They contended recovery of those costs can be upfront or over a reasonable period of time agreed to by the utility and the customer, but including a monthly fee on QFs in a rate schedule is discriminatory.

The Department of Commerce opined that monthly fees are permissible if included in the Uniform Statewide Contract and the customer

has the option to pay up front.

All parties agreed that interconnection costs are the responsibility of the QF and that fixed distribution costs are not interconnection costs. They disagreed on whether

certain metering costs should be included as eligible interconnection costs, and whether or not a recurring, monthly metering fee is a permissible vehicle for the recovery of such costs.

Shakopee Energy Park named top power plant

The newly-opened Shakopee Energy Park has been named a Top Plant by POWER Magazine. The power facility is owned by the Minnesota Municipal Power Agency (MMPA) and was planned, developed and implemented by Avant Energy, the Minneapolis-based energy management company and MMPA’s

long-time partner.

The 46-megawatt power plant delivers power directly to the local utility’s distribution system. Shakopee Energy Park uses five 9.3-MW fast-start, fuel-efficient reciprocating engines that are powered by natural gas, with Liquefied Natural Gas (LNG) as a back-up fuel.



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MPUC accepts Otter Tail Power's safety, reliability and service quality report

The Minnesota Public Utilities Commission (MPUC) Aug. 17 accepted Otter Tail Power's (OTP) 2015/16 Annual Safety, Reliability and Service Quality Report and its Proposed Annual Reliability Standards for 2017.

(OTP filed its 2015 report in April 2016. The Department of Commerce, however, said it lacked adequate resources to review and analyze the report at that time, and the MPUC allowed utilities to maintain 2015 goals through 2016.)

The company's 2017 reliability standards were set at 2013 levels, the MPUC said,

"until OTP demonstrates further improvement in meeting its performance goals."

Proposed goals for System Average Interruption Duration Index (SAIDI), System Average Interruption Frequency Index (SAIFI), and Customer Average Interruption Duration Index (CAIDI) are based on five-year average performance levels.

"Due to OTP's declining performance trend over the last several years," said MPUC staff, "OTP's goals have been set each year at levels that have been easier to achieve, all else equal, and

thus the ability of goals set at the five-year average to put pressure on the company to improve performance has diminished."

OTP's proposed 2015 goals were generally easier to achieve than 2014 goals. In 2014 OTP achieved only seven of the 18 goals, noted MPUC staff.

The company has exhibited "a worsening performance trend over the last five years," noted MPUC staff.

The company missed 2014 goals in five of six work centers, two of which were hit with severe weather conditions. Otherwise the company experienced outages due to damage to poles due to accidents and lightning, the failure of a dead-end 'shoe,' which caused a short circuit, and equipment not owned by OTP. OTP said failure to meet its goals was due to circumstances outside of its control.

OTP calculated its 2014 indices using the IEEE 2.5 beta method for storm normalization. No storms, however, met the criteria to be excluded as a major event day. The com-

pany did say that of nine major service interruptions in 2014, the longest was due to storm damage. Other causes of major service interruptions included equipment failure, animal contact, vandalism and storm damage.

Of note, OTP employed 111 field staff in 2005, the first year of reporting. That number rose to 113 in 2008, then dropped to a low of 103 in 2011 and now stands at 107. Overall staffing level

Recommended goals for 2017 by Work Center

	SAIDI	SAIFI	CAIDI
Bemidji	70.64	1.26	56.06
Crookston	69.33	1.19	58.26
Fergus Falls	66.97	1.11	60.33
Milbank	75.49	1.82	41.48
Morris	55.78	1.01	55.23
Wahpeton	57.24	1.13	50.65
MN Total	64.95	1.13	57.48

has dropped from 145 in 2005 to 140 in 2014.

The filing was made in response to state law and rule.

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MMUA comments on 'QF' fees docket

MMUA on Sept. 18 filed comments with the Minnesota Public Utilities Commission in regards to a Commission Investigation (docket 16-512) into Fees Charged to Qualifying Facilities by Cooperative Electric Associations under certain state statutes.

MMUA noted that in 2015 the Minnesota Legislature authorized the regulatory bodies governing municipal and cooperative electric utilities to implement an additional charge to recover fixed costs not already collected by the utility from generating customers. That intent towards local control was reaffirmed in 2017 with further changes to Minnesota Statute 216B.164.

MMUA said it supports the efforts of the cooperatives coordinated by the Minnesota Rural Electric Association (MREA) to develop a grid access charge that complies with the statute. MMUA believes there has been adequate investigation and that the record indicates that those efforts satisfy the Legislature's intent. MMUA agrees with the finding that the cost of service study developed by the cooperative electric utilities to develop the grid access charge is reasonable and that the use of the methodology should be found to comply with the statutory directive, completing the docket.

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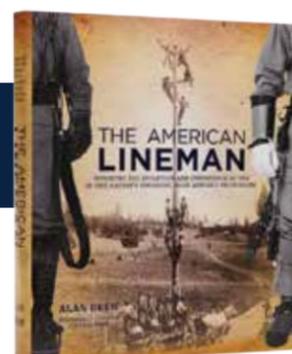
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Elk River, Xcel adjust electric utility service area boundaries with Wright-Hennepin co-op

The Minnesota Public Utilities Commission recently accepted two joint requests to modify electric utility service area maps.

The first request came from Elk River Municipal Utilities and Wright-Hennepin Cooperative Electric Association. In this case, the parties sought to transfer one area (four lots) from the municipal's assigned service area to the cooperative, and transfer

one area (four lots) from the cooperative's service area to the municipal. The areas are located on the southern edge of the municipal's service territory.

The lots being transferred to the cooperative are located in Mississippi Cove in Otsego. The lots being transferred to the municipal are located in the Villas In Otsego.

Xcel and Wright-Hennepin

Xcel Energy and Wright-Hennepin Cooperative Electric Association recently filed two electric utility service area agreements. The Commission's approval of these two Agreements resulted in the transfer of service territory of 26 lots in Hennepin and Wright counties.

In the first agreement, nine lots will be transferred to Xcel Energy from the Cooperative (Xcel Energy has already been serving three of these lots) and nine lots in the Vil-

las at Medina Country Club will be transferred to the Cooperative from Xcel Energy.

In the second agreement, four lots in the Lakeview of Orono will be transferred to Xcel Energy from the Cooperative and four lots will be transferred to the Cooperative from Xcel Energy; and the Cooperative will also allow Xcel Energy to serve one commercial site by exception.

Only one residential customer will change service providers as a result of these agreements. Other than the

three lots already served by Xcel Energy, the one residential customer who will change service providers, and one commercial customer that will be served by exception, the remaining lots have no existing customers.

There was no transfer of any electric distribution facilities or equipment and no compensation paid. The changes are expected to make it more efficient and cost effective to serve the customers.



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St. James: Road project means busy time for 'light' crew

continued from front page

tribution system and two substations, the utility also has a six-engine, 12-megawatt electric generating plant. The plant went on-line in 2002. The city has a dedicated capacity agreement with supplementary power supplier Missouri River Energy Services (MRES), and the plant runs when called upon. St. James also buys power from

the Western Area Power Administration.

Visitors can't miss State Hwy. 4 re-construction through the city, but won't see many electric lines. Most of the distribution system—except for the main feeders—have been placed underground. The system voltage has also been upgraded, from 4160 to 7200 volts.

The light crew (as it is referred to locally) keeps its

equipment and materials in a modern warehouse near downtown, next to the 1948 utility building, which at one time housed a substation and switch gear. That equipment is long since gone, and the building now houses clean, well-lit work space.

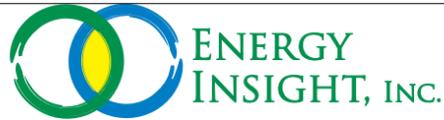
First of its kind project

It has been a bit of a hectic construction season. Approximately 1.6 miles Hwy. 4, which doubles as the main local thoroughfare, is being re-constructed, including sewer and water. While the electric system isn't part of the MnDOT plan, locating and maintaining electric service while accommodating the project will keep the electric crew busy.

The project itself has drawn wide interest. The Federal Highway Administration awarded a \$934,000 demonstration grant to MnDOT and the city to construct two mini-roundabouts. The pair of linked mini-roundabouts are the first in the state. They will replace intersections that were formerly controlled by semaphores, and occupy a similar footprint. MnDOT hopes they will improve the safety and flow of traffic, and were designed to accommodate heavy grain trucks, common on the road. How they will work in practice is the source of much conjecture.

It is going to take a while to find out—The project is scheduled to be mostly complete in 2018.

St. James was originally founded by the Sioux City and St. Paul railroad. Rail and agricultural interests still play a major role in the community, which celebrates Railroad Days every June. The Watonwan County seat population is approximately 5,000.



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Mutual Aid:

continued from front page

anticipation of potential damage from Irma.

In explaining why local utility workers traveled to Florida, Elk River Municipal Utilities General Manager Troy Adams told his local paper, "We proudly help others because we know that if the situation were reversed, others would help us."

The 44 municipal men, with a variety of equipment, left Rochester for Florida on Saturday, Sept. 9. After traveling and spending a day in Georgia riding out the storm's remains, the crews arrived in Kissimmee, Fla., on Sept. 12. At the height of Irma's destruction, 38,000, or 53 percent, of the Kissimmee Utility Authority's 72,000 customers lost power.

On Sept. 14, KUA reported that it completed power restoration to customers that were able to safely receive power. KUA crews were aided by mutual aid crews from Indiana, Minnesota, Texas and



Top: MMUA's Shane St. Clair (center foreground) addressed municipal lineworkers as they assembled the morning of Saturday, Sept. 9 in Rochester. St. Clair is an MMUA Regional Safety Coordinator/Job Training and Safety Instructor. **At right:** an aerial view of the assembled men and machinery.

photos courtesy of RPU



Wisconsin.

The Kissimmee Utility Authority said "The Minnesota crews were awesome!"

In another facebook post

"We proudly help others because we know that if the situation were reversed, others would help us."

Elk River Municipal Utilities General Manager Troy Adams

on the Minnesota Municipal Utilities Association page, a resident of Kissimmee said, "We can't thank you enough for all your help! We appreciate each and everyone of you! Be safe out there!"

While KUA crews left on the afternoon of Sept. 14 to assist the Orlando Utilities Commission, the Minnesota crews left central Florida and traveled 160 miles to Lake Worth, just south of West Palm Beach on the Atlantic

coast.

In Lake Worth, the Minnesota crews worked tirelessly and continued to receive high praise.

MMUA Job Training and Safety Director Mike Willetts, Minnesota's point man on the effort, said, "I received one report saying, 'Can we request the Minnesota crews the next time we have a storm?' You guys are the best we have ever seen."

"That's just awesome," Willetts said. "There's no other word for it!"

The heat and humidity were intense. Among the problems encountered were numerous portable generators. Safety, testing and grounding were

key considerations on every worksite. In addition to the electrical hazards, the linemen also encountered a variety of wildlife, including alligators, snakes, killer bees and other local hazards.

With their work done, the men embarked on their long trip home Tuesday, Sept. 19.

Municipal utilities participating in the Irma-related mutual aid come from Alexandria, Anoka, Austin, Brainerd, Chaska, Elk River, Grand Rapids, Moorhead, Missouri River Energy Services, New Ulm, Owatonna, Redwood Falls, Rochester, St. James, Shakopee, Sleepy Eye, Marshall Municipal Utilities and MMUA.



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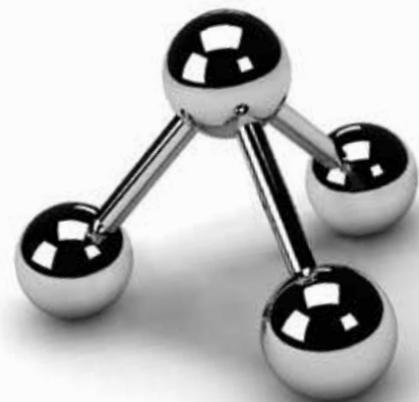
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Detroit Lakes Public Utilities celebrates opening of community solar garden

Detroit Lakes Public Utilities cut the ribbon at its community solar project the afternoon of Tuesday, Oct. 3. It was joined at the event by partners Missouri River Energy Services (MRES) and members of the local Clean Energy Resource Team (CERT), along with a variety of solar subscribers and other interested persons.

The community solar project was offered to the local utility customers who wanted to harness the power of the sun's energy, but lacked their own suitable site for a solar array. It is also appealed to those who want to hedge against future energy prices without installing their own solar system.

The solar plant produces local renewable energy, available to everyone in the utility's service territory. Buying into the community project represented an easy way to enter the solar market, and provides price certainty on community solar energy for 20 years. Subscriptions can be transferred if the subscriber moves.

Each 450-watt solar panel is cost \$1,075. Those subscribing to a panel were required to make advance payment in full. Each panel is estimated to produce 540-635 kilowatt-hours (kwh) per year (\$55-\$65), with a lifetime production estimate of 10,590 kWh per panel. (For an explanation of the terms used here,



Many of the people gathered at the solar celebration gathered for a group photo in front of a panel array.

photos by Steve Downer



see the Electrical Terms Explained article on this page.)

The 29.3 kilowatt panels were made in Minnesota.

The solar plant is located on the northeast side of the city, adjacent to soccer fields and the utility's electric department warehouse.

Energy Services Specialist

Josh Mason spearheaded the effort.

A charter bus took participants on a tour of local clean energy projects, which included examples of commercial LED lighting, refrigeration, and other energy upgrades. Presentations were made by Detroit Lakes Public Utilities,



Left: Information was shared in regards to the project. Top: The afternoon included an energy efficiency tour of the city, including energy efficient lighting at the utility's warehouse.

CERTs, and Missouri River Energy Services (MRES).

Following the official program, everybody enjoyed some time together at a local bistro.

The event was free and open to the public.

Mason offered "a huge thanks" to the Central CERT Steering Committee and Amy Collins of Missouri River Energy Services and for their help in organizing the tour.

Electrical terms explained:

A watt is the basic unit of electric power. It is equal to the rate of energy transfer equivalent to one ampere flowing under one volt of pressure with a power factor of 100 percent.

A kilowatt (kw) is a unit of electrical power equal to 1,000 watts. Customer demand on electrical systems at any time is measured in kilowatts.

The kilowatt-hour (kwh) is a common unit of electric energy consumption, and the basic unit of electric energy.

It equals the total energy developed by the power of one kilowatt (kw) supplied to or taken from an electric current steadily for one hour. In other words, 1,000 watts consumed for one hour equals a single kilowatt-hour.

Power (measured in kilowatts) multiplied by the time of operations (measured in hours) equals kilowatt-hours.



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Around the State



The **City of Kasota** has joined MMUA as a Regular Member. The municipal electric utility serves approximately 350 electric customers.

Contact person is city clerk Sheila Le Ross. Mailing address is P.O. Box 218, Kasota, MN 56050. Phone number is 507-931-3290 and fax is 507-931-3290.

Elk River Municipal Utilities on Sept. 13 held a ribbon cutting for an electric vehicle charging station in downtown Elk River. Owners with 14 electric vehicles turned out, as did a number of representatives from environmental groups and dignitaries including state Rep. Nick Zerwas and Mayor John Dietz.

A local car dealer sponsored a ride and drive. Tom Sagstetter of the utility noted that the range of the current stable of electric vehicles is perfect for many commuters in the utility's service territory.

To help celebrate Public Power Week, **Moorhead Public Service (MPS)** on Oct. 3 dedicated Phase-3 of its community solar garden. The current site can hold up to nine 23-kilowatt arrays: Two were built in 2015, one was added in 2016, and four were added in 2017.

Significant in 2017 is that three of the four arrays were purchased in their entirety by single entities. One array was purchased by 49 residential customers, one array was purchased entirely by Clay County in conjunction with their new law enforcement center project, one array purchased entirely by Concordia College and one array was purchased entirely by Minnesota State University Moorhead.

The site has room for two more arrays which MPS plans to build in 2018 or 2019.

Digi-Key Sept. 15 held a groundbreaking ceremony for a \$200 million to \$300 million expansion in **Thief River Falls**. The project is

Correction

The September MMUA Resource, contained incorrect information in regards to the CMPAS R4 Solar program. A customer pays an annual subscription of \$42.50 for one panel which is 380 watts.



New digs coming for Wadena

The City of Wadena municipal electric and water utility will soon be in new quarters. The current utility headquarters (pictured above) at the intersections of U.S. Hwys. 71 and 10 will be demolished in late October, to make room for a Hwy. 10 improvement project. The currently building actually comprised several old buildings, the first of which was built in the 1930s. Footings for the new utility headquarters have been poured and utility personnel are looking forward to occupying their new quarters next year.

expected to add 1 million square feet — bigger than the old Metrodome in Minneapolis — to the component distributor's global hub, more than doubling its current size.

The expansion has forced the Thief River Falls Electric Department to move. The city council has selected a new site on the west side of the city for a \$4 million, 30,000 square foot building. Currently, the utility is occupying temporary space and has equipment and materials stored at various locations.

Rochester Public Utilities (RPU) began removing the cooling towers at the Silver Lake Power Plant (SLP) on September 5.

Demolition of the cooling

towers and work associated with the demolition was scheduled to take approximately 17 days to complete. The cooling towers have not been operational since RPU ceased coal-fired generation at the plant back in November 2013. Removing the cooling towers was necessary due to them being a fire hazard and posing operation issues.

The **City of Pierz**, citing cost concerns, has dropped its electrical conservation rebate program. Administering the program cost approximately \$10,000 and rebates totaled nearly \$21,000 over four years. The city has 750 electric customers.

Princeton Public Utilities participated in Public

Safety Day Sept. 9. The utility personnel taught kids (and adults) about power lines and how to be safe around them.

A city-wide power outage Sept. 12 in **Delano** was traced back to a substation owned by a large investor-owned utility. Delano Municipal Utilities fired up its generating plant and restored service within 30 minutes of the outage. Power to the grid was restored shortly thereafter.

Following recommendations from the local utility committee, the **Harmony City Council** in September approved increases in the water, wastewater and electric rates. The water and wastewater base charges were increased, as were volumetric fees.

Electric base charge was increased to \$8.25 a month and new summer and non-summer rates also adopted.

Storm sewer and solid waste fees were also increased.



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Associate

Member News

Red Rock Rural Water System has joined MMUA as an Associate Member. Red Rock Rural Water System is a multi-county rural water system providing water service to approximately 2,400 homes and businesses in southwest Minnesota. Ten small towns also receive water. Public water supply number 1170009.

Contact person is Dominic Jones, manager. His email address is dominicrock@centurytel.net The company is located at 305 West Whited Street, Jeffers, MN 56145. Mailing address is to PO Box 160. Company phone is 507.628.4201 and fax is 507.628.4631. Website is located at www.redrockruralwater.com

InSite Health, LLC has also joined the association as an Associate Member.

The company is an industrial sports medicine program specializing in onsite services for the electric, gas, wind, power generation and utilities subcontractor sector. It works with utility companies across the United States. Certified athletic trainers work to prevent discomforts and injuries. Ergonomics and health education services reduce workers compensation costs and lost time. Our trainers have advanced training in the industrial setting.

The company is located at 285 Forest Grove Dr., Suite 207, Pewaukee, Wisc., 53072. Contact person is Bobbie Peters. Her email address is bobbiep@insitehealthteam.com Phone is 877-732-2262 ext. 201. Fax is 877-884-6341. Company website is located at www.insitehealthteam.com

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system and components.

Qualifications:

Must possess a valid Minnesota Class ("B") CDL with air brake endorsement. Applicants must be a graduate of an accredited electrical line worker training program. Preferred applicants will have three (3) years of lineman experience. Must be able to obtain a Minnesota Class D Water license within 12 months.

Salary:

Salary range - \$21.34 - \$27.64 plus benefits dependent on training and experience.

How to Apply:

Employment applications, and job description can be obtained at Kenyon City Hall, 709 2nd St. or at www.cityofkenyon.com. Position will be opened until filled. Review of applications will begin on October 30, 2017. Questions may be directed to Randy Eggert, KMU Operations Superintendent at 507-789-6415, or utility@cityofkenyon.com. A Pre-employment physical, drug screen, and background check will be required.

Energy Services Representative

The New Ulm Public Utilities Commission is accepting applications for a full-time Energy Services Representative. The successful applicant will be responsible for New Ulm Public Utilities energy management programs, developing and managing strategies for customer service, customer communications and marketing of energy products and reviewing energy concerns. Minimum requirements include an Associate's degree in engineering, environmental science/studies, energy management, business administration, communications, marketing or equivalent and a valid driver's license. A bachelor's degree, Certified Energy Manager (CEM) certification and two years experience in a technical or professional background in an energy management environment is preferred. Current wage range is \$26.80 - \$32.61 per hour. You must apply online by visiting our website at <http://www.ci.new-ulm.mn.us/>. Application deadline is 4:00 PM on October 20th. EOE

SCADA Specialist

RPU, a division of the City of Rochester, MN, is the largest municipal utility in the State of Minnesota. RPU consists of 200 employees and serves over 50,000 electric customers and over 39,000 water customers in a 57 square

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This position is responsible for the overall operation, programming and maintenance of RPU's electric and water Supervisory Control and Data Acquisition (SCADA) system and associated systems to ensure real-time reliability, security and NERC compliance. This position also provides technical support and assistance in other areas including relaying, metering and load management.

Minimum Qualifications

Education and Experience

An Associate's degree or 2-year technical certificate in Electronic Engineering Technologies, Telecommunications Technology, or Computer Science, Computer Technology, Computer Information Systems, Computer Networking or closely related field AND five (5) years of full-time employment experience operating, programming and/or maintaining SCADA systems, RTU's and related equipment according to NERC requirements.

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tions

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For more information and to apply online visit www.rochestermn.gov

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Legal Notice:
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- 1.) Publication Title: The MMUA Resource
- 2.) Publication Number: 1080-3750
- 3.) Filing Date: 10/6/2017
- 4.) Issue Frequency: Monthly (combining the months of July-August)
- 5.) Number of Issues Published Annually: 11
- 6.) Annual Subscription Price: \$12.00
- 7.) Complete Mailing Address of Known Office of Publication: 3025 Harbor Lane N., #400, Plymouth, MN 55447-5142
- 8.) Complete Mailing Address of Headquarters or General Business Office of Publisher: same
- 9.) Full Names and Complete Mailing Address of Publisher, Editor, and Managing Editor: Steve Downer - MMUA - same
- Editor: Steve Downer, same address
- Managing Editor: same
- 10.) Full Name: Minnesota Municipal Utilities Association. Complete Mail-

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ing Address: 3025 Harbor Lane N., #400, Plymouth, MN 55447-5142
11.) Known Bondholders, etc.: None
12.) Tax Status: Has Not Changed During Preceding 12 months

13.) Publication Title: The MMUA Resource
14.) Issue Date for Circulation Date Below: September 2017
15.) Extent and Nature of Circulation

	Average No. of Copies Each Issue During Preceding 12 Months	No. Copies of Single Issue Published Nearest Filing Date
a. Total Number of Copies (Net press run)	1999	1987
1. Mailed Outside-County Subscriptions	1866	1853
2. Mailed In-County Subscriptions	83	82
Paid Distribution Outside the Mails	0	0
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Total Paid Distribution	1949	1935
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MMUA's Mike Taylor now working with 24 apprentice electric lineworkers

Mike Taylor travels the state, training apprentice lineworkers.

Taylor, MMUA's Job Training and Safety and Apprenticeship Instructor, has 36 years of electric utility experience and is the former superintendent of Grand Marais Public Utilities.

Among his other duties, he is currently working with 24 municipal electric utility apprentices enrolled in the MMUA Apprentice Lineworker Training program.

Taylor provides the lineman's training, during times designated by the utility, right at the utility site.

Program timing is flexible and hands-on work will be done primarily at a site of the utility's choosing. This allows the utility to get a lot of work



MMUA instructor Mike Taylor.

out of its employee and allows the employee to concentrate on training for approximately two days per quarter.

Along with hands-on training, students work on a nationally-recognized lineman's correspondence training

course. MMUA works with the correspondence course provider, to tailor the learning to the individual utility.

The program includes annual 'tuition free' attendance, for each enrollee, to

the MMUA Overhead, Underground, Transformer and Meter Schools.

The training/work helps make lineworkers more capable and more valuable to their communities, and leads to a

sense of accomplishment and pride in their utility system.

A few openings do exist in this program. For more information, contact Mike Willetts at 612-802-8474.

Technical & Operations Conference

December 6-8, 2017

Best Western Plus Kelly Inn, St. Cloud

Make plans to attend the 17th annual MMUA Technical & Operations (T&O) Conference!

The T&O Conference is the perfect venue to connect with other industry leaders. The conference features an educational program geared toward superintendents, managers, supervisors, crew leads and other key personnel. Participants are sure to find the variety of topics to be meaningful and gain valuable insight on some of the most challenging topics facing the industry today.

In addition, the conference will include a vendor showcase featuring new products as well as a trade show and reception. These events are always well attended and are a



great opportunity to talk with suppliers and learn more about their products and services.

Don't delay - register today!

Wednesday, December 6

Welcome & Opening Remarks (1 p.m.)

The Language of Responsibility: Become the Leader People Want to Follow

Kit Welchlin, Welchlin Communication Strategies
An MMUA favorite offers real-world advice on how to improve yourself and your workplace.

Thursday, December 7

Active Shooter & De-escalation Tactics

Sargent Tad Hoeschen, St. Cloud P.D.
Learn about pre-assault behaviors and how to handle them, along with best practices in dealing with active situations.

Apprentice Lineworker & Rodeo Recognitions

Mike Willetts, MMUA and Don Harbuck, Northwest Lineman College

The afternoon will offer a choice of two tracks.

Manager Track

Cyber Security

Eric Brown, Cyber Advisors

Reliability—Communicating the Value

Troy Adams, Elk River Municipal Utilities;
Dave Hunstad, Hutchinson Utilities;
Dirk Bierbaum, Rochester Public Utilities

Crew Leader/Foreman Track

Safety Culture Within

Kim Duncomb, Austin Utilities
Marc Machacek, MMUA
Tried and true advice on fostering a safety culture in your workplace.

PCBs—A Minnesota Primer

Samantha Adams & Joshua Burman
Minnesota Pollution Control Agency
What you need to know about PCBs

State Lineworkers Apprenticeship

Rick Martagon, Minn. Dept. of Labor & Industry

Vendor Showcase

Trade Show & Reception

Associate Members - Register Now to Exhibit at the T&O Trade Show

You should have received an email regarding the upcoming Technical & Operations (T&O) Trade Show. Space is limited and is sold on a first-come basis (we typically sell out early). If you have questions or for additional information, please contact Rita Kelly at rkelly@mmua.org or 763-746-0707.

Friday, December 8

How Distraction Changed My Life

Matt Logan

Rochester native challenges listeners to focus when they drive, as he shares his story of a daughter lost in a tragic car crash.

Distributed Energy Resources—It's Not that Simple

Bob Jagusch, Bill Black and Amanda Duerr
MMUA presents a toolkit you can use to comply with current regulations.

MMUA Update

Other stuff we think you ought to know!

Noon - Meeting concludes

For more information or to register, go to the 'Calendar' section of the MMUA website, or contact Rita Kelly at rkelly@mmua.org



photo by Mike Taylor

Participants in the MMUA Apprentice Lineworker Training program occasionally work together with other utilities. That recently occurred as City of Randall apprentice Patrick Kalis (right), traveled to Brainerd Public Utilities. He is pictured here with BPU's Cody Dryburgh (left) and Clark Backstrom.

MMUA Upcoming Meetings and Schools

Technical & Operations Conference

December 6-8
Best Western Plus Kelly Inn,
St. Cloud

Transformer School & Pre-Conference

December 12-15
MMUA Training Center,
Marshall

Meter School & Pre-Conference

February 13-16, 2018
MMUA Training Center,
Marshall

PCB Workshop

February 27-28, 2018
MMUA Office,
Plymouth

Rodeo Team Training Clinic

March 6-7, 2018
MMUA Training Center,
Marshall

Legislative Conference

April 3-4, 2018
Best Western Capitol Ridge,
St. Paul

Generation School

April 10-12, 2018
Owatonna Public Utilities

Substation School

April 17-19, 2018
Rochester Public Utilities

Public Power Lineworkers Rodeo

April 28, 2018
Raleigh, North Carolina

Overhead School

September 11-14, 2018
MMUA Training Center,
Marshall