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MRES Today

A NEWSLETTER OF



**MISSOURI
RIVER**
ENERGY SERVICES

How MRES power plants prep for severe winter weather

In February 2021, Missouri River Energy Services (MRES) and its members in the Southwest Power Pool (SPP) saw an unprecedented perfect storm of events that affected the reliability of the power grid throughout the central United States.

SPP is a regional transmission organization (RTO) that oversees the electric grid and wholesale power market on behalf of a diverse group of utilities and transmission companies in 14 central and western states. Based in Little Rock, Arkansas, it's one of seven nonprofit RTOs regulated by the Federal Energy Regulatory Commission. SPP has 104 members and covers more than 552,000 square miles. In total, SPP serves more than 18 million people.

Thirty-three of Missouri River's 61 members are located in the SPP footprint. The remaining 28 MRES members are in a neighboring RTO, the Midcontinent Independent System Operator (MISO).

Last February when the polar vortex descended across the nation, SPP declared an Energy Emergency Alert (EEA) Level 3 and called for all MRES-owned and contracted generation to operate. Thanks to proper planning and winterization practices, MRES generation facilities

were able to respond and stay operational throughout the entire polar vortex, providing much-needed generation for not only MRES members, but for use throughout the entire SPP.

Here's a look at how MRES power plant staff prepares its generation facilities to ensure reliable operation throughout the unpredictable winter months.

Exira Station — Brayton, Iowa

Exira Station is a dual-fuel generation facility that typically operates on natural gas, but when gas supply is curtailed like it was during the February 2021 polar vortex event, the plant can switch to diesel fuel.

Whether it's running on natural gas or diesel fuel, Exira Station averages 99% reliability by conducting over 400 different preventive maintenance items each year. These maintenance items include a variety of tests, inspections and work items designed to keep the equipment in reliable, operational condition so it can achieve that 99% reliability regardless of season.

One of those preventive maintenance items is the winterization procedure MRES staff conducts each fall at Exira. This procedure takes over two weeks to accomplish and involves



Exira Station



Red Rock Hydroelectric Project



Watertown Power Plant

(Continued on Pg. 2)



How MRES power plants prep for severe winter weather *(continued)*

realigning systems to operate during the various seasons, draining cooling water and chilled water from certain areas of the plant to prevent freezing, re-tuning gas turbine water injection curves for different conditions, laying up chilled water refrigeration units, and other plant processes to mitigate problems that can occur during cold weather.

It should be noted that Exira Station also undergoes a de-winterization procedure each spring, as well, to ensure reliability is maintained throughout the spring, summer and early fall months when weather is much warmer.

Red Rock Hydroelectric Project — Pella, Iowa

Cold weather events, such as last February's polar vortex, have little impact on the operation of Red Rock Hydroelectric Project (RRHP), a hydropower generation facility MRES and Western Minnesota Municipal Power Agency (WMPMA) built on the existing Red Rock Dam. Freezing weather doesn't affect the operation of the plant itself, but typically means that less water from the Des Moines River watershed flows into the Red Rock Reservoir, which in turn, affects how much water is available to generate electricity.

RRHP's powerhouse and intake are designed to handle extreme cold weather. The reservoir's water level is several feet above the intake structure's water inlets, so if an ice sheet forms on the reservoir it would have no impact on water passing through the intake and into the turbines.

Watertown Power Plant — Watertown, South Dakota

Thanks to how the Watertown Power Plant (WPP) is designed, MRES staff only needs to turn off the air conditioning and turn on the heaters to prepare for the winter season.

However, WPP cannot operate 24/7 during cold weather because of the fuel system's design. During continuous operation, WPP needs a three- to four-hour break every 24 hours to switch fuel supply tanks and heat the fuel to a minimum temperature of 40°F. To remedy this, the fuel system will be upgraded in 2022 so that WPP can operate 24/7 in all weather conditions.

To learn more about our generation resources and how MRES plans to power the future, go to mrenergy.com and click on the "Energy Resources" tab.

MRES staff donates a ton — literally — to Feeding SD

In November, MRES staff donated 2,256 pounds of food to Feeding South Dakota. The donations were the result of the MRES Well-Being Committee's 2021 Food Drive Challenge.

Feeding South Dakota provides ongoing hunger relief to South Dakotans through its distribution centers, food pantries, mobile distributions, child hunger programs and a network with hundreds of agency partners across the state. Last year alone, Feeding South Dakota provided over 12.8 million meals to families in need.



In November, MRES staff donated more than 2,000 pounds of food to Feeding South Dakota during a food-drive challenge. Representing some of the Sioux Falls staff are, back row, from left: Derek Bertsch, Kersten Johnson, Shannon Murfield, Isabell Larson, John Weber, Eric Carl, Nick Fanning, John Egan and Jody Peck. Front row, from left: Andy Berg, Brent Fredin, Evan Leebens, Karen Kittelson, Reece Chambers, Wes Pfaff and Chris Doherty.



Contestants from member communities thrive in BIG Idea competition

Two contestants from MRES member communities were among the 2021 South Dakota BIG Idea Competition's eight finalists. Tanner Reed of Flandreau developed the idea of Reed Fencing, and Jacob Elbersen of Pierre created Burger Builder. The competition is coordinated by the Small Business Development Center.

MRES is a sponsor of the Big Idea Competition on behalf of its South Dakota members as part of the MRES Community Event Sponsorship Program.

The competition aims to promote entrepreneurship, spur creative thinking and encourage students to start a business. Nearly 240 entries involving 298 high-school students from 34 schools took part in the competition. Students submitted 95 marketing entries, 51 wellness entries, 41 agriculture innovation entries and 51 other entries.

The BIG Idea Competition started in 2007 and is coordinated

by the South Dakota Small Business Development Center in Aberdeen. For more information on the competition, go to bigideasd.com.



Jacob Elbersen of Pierre, South Dakota, was a finalist for his Burger Builder business idea.



Tanner Reed of Flandreau, South Dakota, presents his idea for a fencing company to the panel of judges during the Big Idea Competition.

Air-leak surveys help customers save energy and improve bottom line

Regularly scheduled maintenance saves companies countless dollars in emergency repairs and downtime, and the MRES® Proactive Maintenance Program is designed to help members and their customers inspect and test equipment to find problems before they cause a power outage or equipment failure.

Services offered include digital infrared thermography, ultrasonic inspections, partial discharge testing, rapid-imaging vibration testing, transformer oil sampling and motor testing. These services help members identify potential trouble spots in their electric distribution systems and substations, and they also help customers find potential problems in wiring, motors, compressed-air systems and other electrical equipment.

Air-leak surveys are offered as a component of ultrasonic inspection services, where MRES energy services technicians use digital ultrasonic equipment to locate compressed air leaks when a plant or business is in full operation. Studies

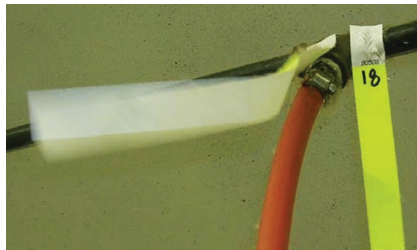
show that, on average, about 25% of all compressed air produced escapes, so the reduced system efficiency and costs can be significant. Workers may know where the leaks are, but they often don't know how important it is to fix them.

The leaks can add up quickly and significantly. For example, if you rub your index finger and thumb together about 3 feet away from your ear, the noise you hear would be equal to an air leak that could cost about \$100 per year. If you rub your hands together about 3 feet away from your ear, the noise you hear would be equal to an air leak that could cost about \$400 per year.

Last year MRES energy service technicians completed 38 air-leak surveys that found \$460,000 worth of air leaks. That equates to 7,200 cubic feet of air leaking per minute, which is like running a 1,700-horsepower electric motor or three of John Deere's largest tractors combined, to run an air compressor that does nothing but leaks air.

"Of those 38 customers, 30 completed repair verifications, where our team went back in and listened to the repaired area and did not find a leak," states Daryl Androli, senior energy services technician. "On average, those 30 customers saved 78.5% of the air we found leaking by making corrective repairs. They were also able to save 79% of the total dollars lost."

For more information on the Proactive Maintenance Program, go to mrenergy.com and click on the "Services" tab. To schedule an air-leak survey, contact your local utility representative or contact Daryl Androli directly at daryl.androli@mrenergy.com or 605-201-9015.



In 2021, MRES energy service technicians completed 28 air-leak surveys that found \$460,000 worth of air leaks. When a leak is found during a survey, it is tagged and photographed, and information about the leaking part and the leak's decibel level – an indicator of the size of the leak – is logged as part of the survey's report. Here, a tag from an actual air-leak survey is shown fluttering as leaking air from a compressed-air hose passes over it.

MRES enters into capacity purchase agreement with Atlantic Municipal Utilities

During its December meeting, the MRES board approved a new capacity purchase agreement with Atlantic (Iowa) Municipal Utilities (AMU). The structure of the agreement is similar to the reserved capacity agreements (RCAs) MRES has in place with 19 other members.

RCAs offer a win-win solution to a member's reliability needs and MRES' capacity needs by utilizing the members' local generation resources for backup capacity. Through these purchase-power agreements, MRES can call upon member generators to run and supply energy to the regional electric grid during times when other resources cannot meet customer needs. During last year's polar vortex, six MRES members within SPP's footprint were called on to generate electricity to help keep the lights on in their communities and throughout the region.

Additionally, RCAs allow member utilities to run their generators and supply power to their customers during other

times of emergency, including outages caused by severe weather or random accidents that damage powerlines.

As part of the agreement, MRES pays the member a monthly fee in exchange for making the local generating capacity available to MRES for its use. This mutually beneficial arrangement can help MRES and its members meet their capacity requirements, while helping participating members add local backup generation to increase the reliability of their operations.

Due to transmission limitations, the maximum amount of capacity that a member can install under this program is equal to the member's peak demand. Interested members are asked to contact Vice President of Power Supply and Operations Terry Wolf at terry.wolf@mrenergy.com or 800-678-4042.

MRES scholarship applications now available

Each year MRES awards scholarships to high school seniors entering educational programs related to the electric industry. This year, up to 12 scholarships will be granted in two categories for students who enroll in eligible programs no later than Fall 2022.

Up to five \$1,000 scholarships will be awarded to high school seniors who plan to enroll in a full-time undergraduate course of study at an accredited two- or four-year college, university or technical school.

To be eligible, the student must reside in a household receiving electric service from one of the 61 MRES member utilities. Students planning to pursue courses of study closely related to the energy industry — electrical technician (field service technician, wind turbine maintenance, power plant maintenance, etc.), accounting, electrician, engineering, energy or business management, and many more — will be given preference for these scholarships, within reason. These awards may be renewed for up to three additional years or until a bachelor's degree is earned, whichever occurs first.

Renewal is contingent upon satisfactory academic performance in a full-time course of study and continuation of the program by MRES.

Additionally, up to seven scholarships of \$1,000 each will be awarded to students who enroll in a full-time powerline/lineworker program at an eligible technical college. Eligible technical colleges include the following:

Iowa

- Northwest Iowa Community College, Sheldon

Minnesota

- Dakota County Technical College, Rosemount
- Minnesota West Community and Technical College, Granite Falls
- Minnesota West Community and Technical College, Jackson
- Minnesota State Community and Technical College, Wadena

North Dakota

- Bismarck State College, Bismarck

South Dakota

- Mitchell Technical Institute, Mitchell

Powerline/lineworker scholarships are one-time only and not renewable. Applicants do not need to reside in a household receiving electric service from an MRES member utility.

The application process opened Jan. 14, and the deadline to apply is **March 15, 2022**.

For more information about the MRES scholarship program or to download the application form, go to mrenergy.com and click on the link for scholarships.



LEAD Course registration now open

MRES plans on hosting The LEAD Course in person again this year, and registration for the course is now open.

The LEAD (Leadership, Excellence and Development) Course is a high-level development program focused on the critical skills, awareness and perspective that will make all the difference to your success as a leader in the municipal utility industry. The course is designed for utility and/or city staff who lead and influence others in their work. Employees who currently have, or anticipate having, leadership responsibilities will gain the most from this curriculum.

LEAD is a one-year course held across four separate sessions. Those registering should fully intend to participate in each session, scheduled for the following dates:

- April 20-21
- June 22-23
- Aug. 17-18
- Oct. 19-20



During the course, Wednesday sessions are from 8:30 a.m. to 4 p.m., while Thursday sessions are 8:30 a.m. to 3 p.m. All sessions are held in Missouri River's board room in Sioux Falls.

Lodging is not included in the program fee. MRES has arranged discounted lodging (\$114/night) for each session at the Homewood Suites hotel, right next to the MRES office.

Kent Myers is the speaker for the event. He is the Managing Principal of Vision Companies and has a decade of experience working with Minnesota municipal utilities on leadership, culture development and strategic visioning. He's also a frequent guest lecturer at Harvard Business School.

Reserve your spot for the LEAD Course online at mrenergy.com. From the home page, click on the "Events" tab and navigate to the April 20-21 course dates to register or download the course brochure for more information.

Member career opportunities now posted on MRES website

The utility industry is a competitive job market, and it's becoming harder and harder for utilities to attract and retain qualified personnel.

At its annual strategic planning session in July, the MRES board of directors approved a new strategic priority of assisting members with staffing needs. As a result, MRES plans to develop templates and other resources in 2022 to help its members with recruiting, human resource management and succession planning, among other things.

MRES recently started posting members' utility-related job openings on the mrenergy.com website under the "Careers" tab. The page is frequently visited by those searching for job opportunities in the electric industry. In addition, current member job openings will soon be listed in the MRES Today newsletter.

Here are the guidelines for submission:

- Provide the job ad electronically, including instructions for individuals to apply and member contact information
- Provide the location of the position – community, building, remote, etc.
- Provide the start and end dates for accepting applications (MRES will remove the application from the website after the end date)
- Provide a link to the job posting on your website (MRES cannot link directly to an application form)

Remember to visit the Careers tab frequently to see new postings from other members. If you have questions or would like to submit utility-related job openings, please contact Director of Communications Valerie Larson-Holmes at valerie.larson-holmes@mrenergy.com or 800-678-4042.

MRES tracks utility-related proposals in state legislatures

MRES serves as an advocate for its members and continuously monitors legislative and regulatory activity at the federal level and in the four states it serves — Iowa, Minnesota, North Dakota and South Dakota.

Go to mrenergy.com/legislative-regulatory to see the bills MRES is tracking in all four member states.

State legislatures are now in session, and bills and other legislative measures MRES is tracking can be viewed online at mrenergy.com. Once there, bill descriptions can be found by house of origin in each state. Every bill description provides a brief breakdown of the bill, current hearing schedule and actions taken. Interactive links are also provided, so users can easily navigate to each state's official legislative site with the click of a button.

Denison's Donna Reed inducted into Iowa Women's Hall of Fame

Started in 1975, the Iowa Women's Hall of Fame honors Iowans for their enduring impacts on society as elevating female role models for all ages and walks of life. In 2021, Donna Reed joined an honor roll of 188 women whose lives shaped and inspired a rich cultural heritage for Iowa and the nation at large.

Reed, who was born in 1921 on a farm near the member community of Denison, Iowa, was an award-winning actress and entertainer who was widely known for her integrity, courtesy, equity and humanity. Reed was one of four women inducted into the Iowa Women's Hall of Fame last year, putting her name alongside those of civil rights leaders, lawmakers, educators, artists, writers, musicians, scientists, journalists, doctors, nurses, volunteers and an astronaut.



10 employees earn POWER awards



Ten employees were recently recognized by the MRES board and their co-workers with Peer Ovation With Earned Recognition (POWER) awards.

Todd Christensen, programmer analyst, was awarded for his work on shadow billing of time-of-use rates for members.

Cybersecurity Manager **Rob Hinkhouse** was recognized for his work on cybersecurity programs for MRES, its members and RRHP.

Administrative Assistant **Lisa Korthals** received the award for the extra time she's devoted to administrative duties associated with the board.



From left: Lisa Korthals, Austin Hoekman, Rob Hinkhouse, Todd Christensen, Reece Chambers and Nick Fanning



Ed Jackson



Tony Knapp



Allen Scarf

Director of Operations **Austin Hoekman** was recognized for his proactive operations planning prior to the polar vortex.

Scheduling Supervisor **Teri Schoffelman** was presented the award for leading the operations center during the polar vortex.

Senior Resource Engineer **Nick Fanning** and Resource Engineer II **Reece Chambers** were recognized for all the work they put into operating WPP during the polar vortex.

Also awarded for their work during the polar vortex was the team at Exira Station. Plant Manager **Ed Jackson**, and Operations and Maintenance Technicians **Allen Scarf** and **Tony Knapp**, all received the award for keeping Exira Station online and generating throughout the polar vortex.

Given once a year, the POWER Award is Missouri River's highest form of employee recognition. This year the awards were presented during a board-employee luncheon Dec. 16 at the Hilton Garden Inn in downtown Sioux Falls, South Dakota.



Teri Schoffelman

Wahle presented with Knabach Excellence in Power Award

Former MRES Senior Vice President of Power Supply and Operations Ray Wahle has been named the 2021 Wayne E. Knabach Excellence in Power Award winner.

The Knabach Excellence in Power Award is presented by the Center for Power System Studies, which is based at South Dakota State University and is dedicated to the teaching of electrical power systems in coordination with the regional power industry. The award was presented at the annual conference Oct. 18 at McCrory Gardens in Brookings, South Dakota.

Wahle is the 12th person to receive the Knabach Award since it was created to honor the longtime Center for Power Systems Studies director, Wayne E. Knabach, who died in 2014. The award recognizes lifetime achievement in the industry, and Wahle spent his entire 42-year career at MRES, which was known as Missouri Basin Municipal Power Agency when he was hired in 1979 after graduating from South Dakota School of Mines and Technology. Though retired, Wahle remains active with MRES, assisting with the preliminary engineering work on the Gregory County Pumped Storage Project.



The MRES engineering group was well represented when Wahle was presented with the prestigious Knabach Excellence in Power Award. Those present are, back row, from left: Richard Dahl, Wes Pfaff, John Weber, Brian Zavesky and Brent Moeller. Front row, from left: Andy Berg, Austin Hoekman, Ray Wahle, Jesse Kreutzfeldt and Terry Wolf.



Former MRES Senior Vice President of Power Supply and Operations Ray Wahle was instrumental in the planning and building of RRHP. Here he's pictured standing on the rebar of one of RRHP's penstocks.

Events Calendar

Jan. 15-Feb. 26

Frostival

Moorhead, Minnesota
frostival.com
701-282-3653

Feb. 12

23rd Annual Frostbite Four Road Race

Beresford, South Dakota
facebook.com/frostbitefour/

March 9-13

North Dakota Winter Show

Valley City, North Dakota
northdakotawintershow.com
800-437-0218

April 30

Siouxperman Triathlon

Sioux Center, Iowa
siouxperman.com
712-449-5259

May 19-21

81st Annual Tulip Festival

Orange City, Iowa
octulipfestival.com
712-707-4510

May 19-21

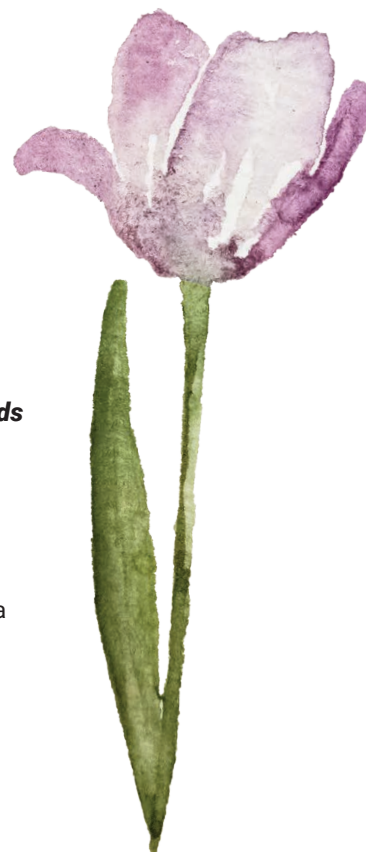
24th Annual Festival of Birds

Detroit Lakes, Minnesota
visitdetroitlakes.com/events
218-847-9202

May 27-29

Tivoli Fest

Elk Horn and Kimballton, Iowa
danishmuseum.org



To have your event listed on this page, please send the event's date, name, location and contact information to Director of Communications Valerie Larson-Holmes at 800-678-4042 or valerie.larson-holmes@mrenergy.com. To be considered for print, information must be submitted at least eight weeks prior to the event.

Visit mrenergy.com/events to see a full listing of calendar events.



P.O. Box 88920

Sioux Falls, South Dakota 57109-8920

Phone: 605-338-4042 | Fax: 605-978-9360

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Member Profile — Wadena, Minnesota

Named after Chief Wadena, an Ojibwe Indian chief, the City of Wadena was incorporated in 1881, even though a post office has been in operation at this location since 1873. Interestingly, however, present-day Wadena is about 18 miles west of where the first townsite was established 90 years earlier, when French-Canadian fur traders — Voyageurs — built a trading post in 1783. The trading post was said to be on the “little round hill,” which translates to Wadena in Ojibwe.

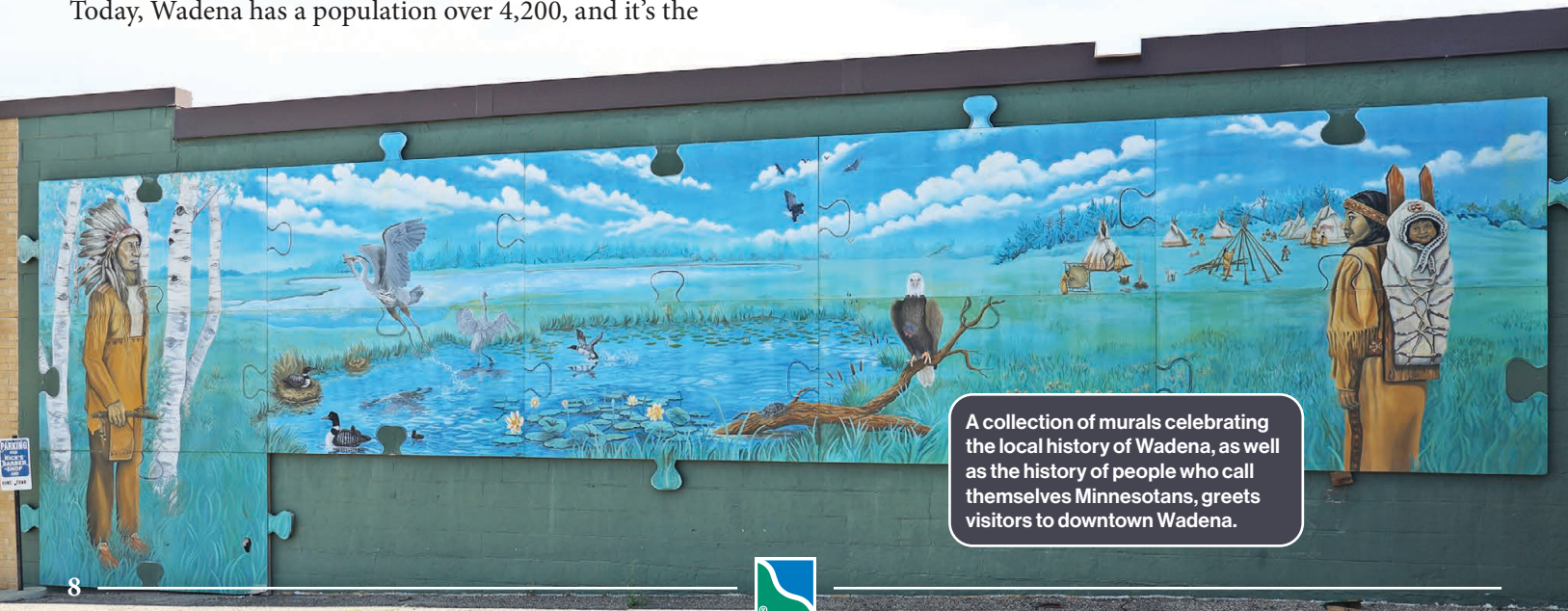
Soon after the trading post was built, a great battle was fought at Old Wadena between the fur traders and Native Americans. Word of the attack spread, and traders avoided the area for nearly a decade. Subsequent attempts were made by fur traders and other European settlers to rebuild Old Wadena — today the original townsite is marked by a county park and campground called Old Wadena Park — but in 1871 the townsite permanently migrated west to set up shop alongside the new railroad line that cut through the county.

Today, Wadena has a population over 4,200, and it's the

county seat of Wadena County. Wadena boasts an art deco downtown with great shopping and many historic storefronts, and more than 200 businesses call the city home.

Visitors can stroll the downtown alleys and enjoy a collection of murals decorating the back entries to many of Wadena's businesses. The murals depict the history of Minnesota and were part of a project to make the back entries more inviting when the state dug up the main street going through downtown Wadena in 2003. When all was said and done, the mural project featured art from over 50 artists, 100 students and 89 volunteers.

The City of Wadena Utilities Department has been an MRES member since January 1973, and today it provides water, sewer and electric services to more than 2,400 residential and 440 commercial meters. Utilities Superintendent David Evans is the official representative to MRES, while City Administrator Janette Bower serves as the alternate.



A collection of murals celebrating the local history of Wadena, as well as the history of people who call themselves Minnesotans, greets visitors to downtown Wadena.