

MRES TODAY

April 2025

A NEWSLETTER OF **MISSOURI RIVER**
ENERGY SERVICES

MISSOURI RIVER EMPLOYEES LIGHT UP NAVAJO

In early April, a team of employees from Missouri River Energy Services (MRES) and five representatives from our member communities headed to the Navajo Nation for the Light Up Navajo VI project, working to connect families to electricity for the first time.

Braydon Ripka never realized how much he took for granted. Through a recent volunteer experience, he now has a deeper appreciation for simple things like flipping on a light.

A second-year apprentice lineworker with the MRES distribution maintenance (DM) crew in Luverne, Minnesota, Braydon jumped at the chance to volunteer for Light Up Navajo, a collaborative project launched in 2019 by the Navajo Tribal Utility Authority (NTUA) and the American Public Power Association (APPA).

Each year from April to August, volunteer lineworkers from public power utilities across the U.S. journey to the Navajo Nation to provide power to homes without electricity.



Many on the Navajo Nation made signs welcoming utility crews from around the U.S. coming to bring their homes power for the first time.

Braydon was joined on the trip by fellow MRES team members: Clay Welchlin, a journeyman lineworker, and Dean Fuerstenberg, an apprentice lineworker — both from the Jackson distribution maintenance crew — and Andrew Johnson, a member programs coordinator who documented their work.

“Right away I threw my hat in the ring. I didn’t even have to think about it,” he said.

Five volunteers from three MRES Minnesota member communities also stepped up to take part in the project:

Mike McGrane and Bob Steidl, journeyman lineworkers from ALP Utilities in Alexandria; Andy DeBlieck, electric distribution supervisor from Detroit Lakes Public Utilities; and Rene Celedon, apprentice lineworker, and Dan Joel, superintendent, both from Westbrook Public Utilities.

They joined over 300 volunteers from 44 utility companies to provide Navajo families with something they’d never had.

Electricity.

(Continued on page 2)



MRES Apprentice Lineworker Braydon Ripka works to set a line on the Navajo Nation reservation.

(Continued from cover)

Stationed in Window Rock, Arizona, the MRES crew worked across the Fort Defiance Utility District along the Arizona-New Mexico border. Throughout the week, they crisscrossed both states, drilling holes, setting primary and secondary poles, wiring homes and hanging transformers – step by step bringing electricity to places where it had never existed before.

Once everything was hooked up, NTUA staff energized the lines and plugged in the meters.

By the end of the week, the crews connected four families to the grid for the first time.

When that first switch flipped, tears flowed.

Alice Chavez is in her 80s and has never lived in a home that had electricity.

Alice sat outside watching each day as the crew worked to provide power to her home. She'd bring them water and snacks, making sure they were never hungry or thirsty.

"When we told her she could go in and flip on the lights, she started bawling. She just kept saying 'thank you, thank you, thank you.' It was hard not to get choked up," Braydon said.

At the end of each day, Braydon would go back to his hotel room and decompress, reflecting on the day's work.

"When I thought about the tremendous impact we were making, I just didn't have words," he said.

Braydon's time in the Southwest was also a good professional learning experience. Being from Luverne, Braydon is used to dealing with an underground system, but everything set in the Navajo Nation was overhead, and much of it on rough terrain.

In the final days of the project, the crew framed and set 30 poles across 2.5 miles of rugged, mountainous landscape. The goal was to connect a cluster of four homes in an extremely remote area. The terrain was so tough, one stubborn hole took nearly three hours to dig with a pressure digger due to solid rock beneath the surface.

Eventually, the team got everything set and soon another utility group will come back to complete the job and connect more families to electricity for the first time.

That's something that may not have happened at all without the Light Up Navajo project.

"The utilities worked together for a common cause. They saw the need and worked hard to build power lines and connect homes in remote and isolated areas. Without these partnerships, it's very likely that the families would have remained waiting," NTUA General Manager Walter W. Haase said.

While the experience will stay with Braydon here on the plains, he left a piece of himself there in the high desert.

Braydon is part Dakota, affiliated with the Sisseton-Wahpeton tribe. His aunt carves pipestone sculptures and made him a small turtle to take with him on his trip.

In many Native American cultures, turtles symbolize longevity, protection, wisdom, healing, health and safety.

"My aunt told me either to keep it with me for protection or give it to an elder," Braydon said.

Before leaving her home, Braydon left his pipestone turtle with Alice Chavez.

If he ever has the opportunity to serve on the Light Up Navajo project again, Braydon wouldn't even have to think about it.

"I'd go back over and over and over again," he said.



The MRES crew worked in extremely rugged terrain, with one hole taking over three hours to dig due to the solid rock beneath the surface.



The crews from MRES, Alexandria Light and Power, Detroit Lakes and Westbrook stand with Alice Chavez and her family.



MRES apprentice lineworker Braydon Ripka works to bring power to families on the Navajo Nation.

Powering Down Vulnerability: Securing the Energy Sector's Supply Chain

The energy sector stands as a critical pillar of our society. From the electricity powering our homes to the fuel driving our industries, reliable energy is essential.

However, the very interconnectedness that makes the energy sector so vital also exposes it to significant vulnerabilities, particularly within its supply chain.

The Interconnected Web of Energy

The energy sector is a complex web of systems, stretching far beyond power plants and wind farms. It includes transmission lines, distribution networks, storage facilities, control systems, communication systems and numerous third-party partners. Each of these components is a link in the supply chain, and each link presents a potential risk.

Furthermore, the global nature of the energy sector, with systems and networks spanning across borders, expands the attack surface, making them more susceptible to cyber threats, and gaining access to one company's grid control systems could lead to widespread disruption across entire supply chains and virtual systems.

Customer-Level Connectivity: A New Frontier of Vulnerability

Even at the customer level, connectivity introduces vulnerabilities. The rise of solar energy, with its mix of large-scale solar farms and rooftop panels, along with the expansion of electric vehicle (EV) charging stations, adds numerous entry points for cybercriminals. Each connection between the electrical grid, internet cloud systems, charging stations and EVs represents a potential weakness if cybersecurity measures are not strong at every stage.

The eFORT Initiative: A Step Towards Resilience

Recognizing the urgency of these vulnerabilities, the European Commission launched the eFORT initiative in August 2024. This multi-country research project aims to enhance the reliability and resilience of power grids as Europe transitions toward a fully digital system. By conducting simulations and exploring ways to protect electric grids from various cyberattacks, the eFORT team is working to address these critical supply chain risks.

Protecting the Power Grid: A Collective Responsibility

Securing the energy sector's supply chain is not just the responsibility of energy companies, it requires a collective effort. Governments, regulatory bodies, technology providers and end-users all have a role to play. Robust cybersecurity measures, ongoing monitoring, and incident response plans are essential to mitigating these risks.



Strategies for Securing the Energy Supply Chain

Securing the energy sector's supply chain requires a multi-faceted approach. Implementing rigorous vendor risk management processes is crucial, including thorough vetting of all third-party suppliers and partners. Regular security audits and penetration testing can help identify vulnerabilities before they're exploited. Adopting a zero-trust security model, where no user or device is trusted by default, can greatly reduce the risk of unauthorized access.

Encryption of data both in transit and at rest is essential, as is the implementation of robust identity and access management systems. Additionally, investing in employee training and awareness programs can help create a culture of cybersecurity throughout the supply chain. Collaboration and information sharing between energy companies, government agencies and cybersecurity experts can also enhance the sector's overall resilience against threats.

Powering a Secure Future

As the energy sector becomes increasingly digitized, the importance of securing the energy supply chain cannot be overstated. Where opportunities for innovation arise, so do threats. By building a positive and strong cybersecurity culture from the beginning, we can embrace the benefits of innovation while minimizing risks. But this will require ongoing investment and collaboration across the industry and adaptation.

MRES PARTNERS WITH SDSU'S CENTER FOR POWER SYSTEMS STUDIES

On Tuesday, April 15, MRES welcomed the South Dakota State University (SDSU) Center for Power Systems Studies (CPSS) group to its Sioux Falls headquarters for their spring meeting.

The CPSS program represents a collaboration among SDSU's electrical engineering and computer science departments and leaders across the utility and consulting sectors, including MRES. Its goal: bridge the gap between classroom learning and real-world application in the power engineering field.

By partnering with CPSS, MRES and other organizations help foster an environment where education and industry work hand in hand, preparing the next generation of power industry professionals.

Membership in CPSS includes a broad range of industry partners and three CPSS associate members — Brookings Municipal Utilities and Watertown Municipal Utilities in South Dakota, and Marshall Municipal Utilities in Minnesota, all MRES members.

The group gathers twice each year, once in the fall at SDSU and once in the spring at one of the member agencies. These meetings offer an opportunity for technical exchange, program updates, networking and showcasing student-led research projects that tackle real-world industry issues.

This spring's meeting kicked off with an overview of MRES, given by Terry Wolf, the organization's vice president of power supply and operations. Wolf shared insights into the mission of MRES, history and evolving role in supporting 61 member communities across the Upper Midwest.

Following Wolf's remarks, CPSS Coordinator Dr. Steve Hietpas and Dr. Sanjeev Kumar, dean of SDSU's College of Engineering provided updates on SDSU's engineering initiatives and the continued impact of the CPSS program on students and industry partners alike.

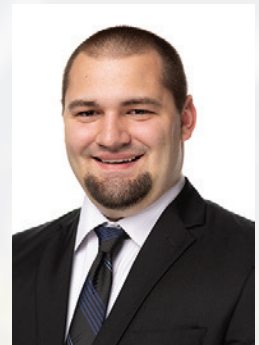
Each year, CPSS sponsors a student-led project that challenges students to solve real-world engineering problem with practical implications for today's power sector.

This year, three electrical engineering students presented their findings on a solar feasibility study by tackling a practical question from a local farmer: Could installing solar panels on his operation help lower his energy costs for running irrigation pivots and covering other production expenses?

Through their research, the students found it wouldn't be cost-effective for him to install solar panels at this time.

The project was a great example of how CPSS helps students take what they've learned in the classroom and apply it to real-world challenges — giving them a strong start as problem-solving engineers right from the start of their careers.

MRES Transmission Engineer Jesse Kreutzfeldt credits the program with helping him launch his career. While studying at SDSU, Jesse was active in CPSS, where Dr. Hietpas helped connect him with an internship opportunity at MRES.



Jesse Kreutzfeldt

Six years later, Jesse remains at MRES, helping ensure the safe and reliable transmission of power from our facilities to the members and communities we serve.



SDSU Center for Power Systems Studies students presented their project on the financial feasibility of installing solar panels on a local farm to a group of MRES employees on Tuesday, April 15.

MRES® 60TH ANNUAL MEETING AGENDA



May 7-8, 2025

Sioux Falls Convention Center

Visit www.mrenergy.com/events for a full agenda.

WEDNESDAY, MAY 7

- 9 A.M. PRECONFERENCE: MRES ESSENTIALS (101)**
- 1 P.M. WELCOME AND OPENING SESSION**
Matt Schull, MRES President & CEO
- 1:15 P.M. FITCH'S OUTLOOK FOR THE PUBLIC POWER SECTOR**
Dennis Pidherny, Managing Director, Public Finance, Fitch Ratings
- 2 P.M. EMPOWERING RESILIENT ADVOCACY**
Samantha "Sam" McDonald, Kanner & Associates
- 3 P.M. RELIABLE POWER, RESILIENT PARTNERSHIPS: EMPOWERING POSSIBILITIES TOGETHER**
Moderator: Vernell Roberts
Col. Robert J. Newbauer, U.S. Army Corps of Engineers
Jim Horan, Mid-West Electric Consumers Association
- 3:45 P.M. PRESIDENT & CEO REPORT**
Matt Schull, President & CEO
- 4:15 P.M. PRESENTATION OF AWARDS**

RECEPTION & CASINO NIGHT
4:45 P.M. - 8:30 P.M.

THURSDAY, MAY 8

- 6:45 A.M. BUFFET BREAKFAST**
- 8 A.M. WELCOME BACK**
Matt Schull, MRES President & CEO
- 8:05 A.M. CHAIR'S REPORT AND BUSINESS MEETING**
Vernell Roberts, MRES Board Chair
- 8:35 A.M. LIGHT UP NAVAJO VI**
Moderator: Andrew Johnson
Braydon Ripka, Luverne DM
Dan Joel, Westbrook Public Utilities
Bob Steidl, Alexandria Light & Power
- 9:45 A.M. EMPOWERING POSSIBILITIES THROUGH CUSTOMER CONNECTIONS**
Moderator: Valerie Larson-Holmes
Brooke Bohnenkamp, City of Pierre
Janel Johnson, Willmar Municipal Utilities
Amie Vasichek, City of Lakota
- 10:30 A.M. KEYNOTE SPEAKER: THERE IS NO "I" IN TEAM, UNLESS YOU'RE A REALLY BAD SPELLER**
Mark Mayfield, Certified Speaking Professional
- 11:20 A.M. CLOSING REMARKS**
- 11:30 A.M. ADJOURN AND LUNCH**
MRES & WMPA BOARD MEETINGS

CELEBRATING 60 YEARS OF EMPOWERING COMMUNITIES



Tie or die!

This was the rally cry Arie Verrips and Maurice TePaske, pivotal figures in the foundation of what would become Missouri River Energy Services, expressed throughout the 1950s and 60s, a time when small public utilities felt the pressure and urgency to negotiate long-term power contracts.

From the 1960s to the 1980s, many municipal utilities worried (justifiably) that if they didn't band together to interconnect their systems, they would be left at the mercy of large investor-owned utilities, impacting both pricing and availability.

The rally cry worked and 60 years later, Missouri River is proud to provide affordable, reliable power to our 61 member communities.

HERE'S TO THE NEXT 60 YEARS OF POWERING POSSIBILITIES!

POWERING THE PLAINS: THE HISTORY OF HYDROPOWER DAMS IN THE UPPER MIDWEST — YELLOWTAIL DAM

YELLOWTAIL DAM HISTORY

More power. More recreation. Some of the best trout fishing in the nation.

That's the effect the Yellowtail Dam on the Bighorn River has had on south central Montana over the last 58 years.

This impressive 525-foot structure is part of the Pick-Sloan Missouri Basin Project, a system designed to manage water resources across the Upper Midwest.

While the dam is nearing its 60th anniversary, the idea of damming the Bighorn River dates to the early 20th century.

Following the Homesteading Act, the region's population boomed, and federal officials recognized the growing need to provide irrigation and flood control to the surrounding communities, farms and ranches.

So in 1905, just 16 years after Montana obtained statehood, the U.S. government conducted feasibility studies for a dam on a stretch of the Bighorn River, nine miles east of Fort Smith, Montana, and roughly 45 miles southeast of Billings.

However, it would take nearly 40 years to turn those ideas into reality. In 1944, the U.S. government announced formal plans to build the structure at its current location.

It would be another 19 years before construction would begin. Final plans for the current dam wrapped up in the 1950s, and construction got underway in May 1961. By 1965, the river was diverted into the newly formed Bighorn Lake, and in 1967, Yellowtail Dam officially became operational.

Named after Robert Yellowtail, chairman of the Crow tribe during the 1940s, and a tireless advocate for his people.

KEY FEATURES

Yellowtail Dam stretches nearly 1,500 feet in length across the top of the dam, with a width of 22 feet. At the base of the dam, at its broadest point, Yellowtail is 145-feet thick. Such an enormous structure required a lot of concrete. In the five years the dam was under construction, workers placed 1.5 million yards, or 3 million tons, of concrete into the structure.

The powerhouse at Yellowtail Dam's base houses four massive Francis turbines, each rated at 87,500 horsepower, together generating 250 megawatts of electricity.

With a hydraulic head of nearly 500 feet, the facility has averaged close to 1 billion kilowatt-hours of energy production annually over the last decade. Yellowtail Dam releases constant flow of 2,500 to 3,000 cubic feet per second into the Bighorn River and has a crest level of 3,660 feet, crest length of 1,480 feet and crest width of 22 feet.

LOOKING AHEAD

The Bureau of Reclamation is looking ahead by allocating between \$25 million and \$50 million for major upgrades, including refurbishing generators, redesigning generator ventilation and installing new air coolers, all with the goal of making the dam more efficient and more reliable for generations to come.



This photo from the Bureau of Reclamation shows a historic, aerial view of Yellowtail Dam, completed in 1967.



Yellowtail Dam on its 45th anniversary. Photo by Justin Spears, courtesy of Western Area Power Administration.



Aerial photo of Yellowtail Dam as it stands today.

YELLOWTAIL DAM FUN FACTS

- The Reclamation Service (the precursor to the Bureau of Reclamation) carried out three major studies for the Yellowtail Dam between 1903 and 1942. The first recommended a gravity-arch dam 480 feet high that would provide irrigation for 60,000 acres. A later study proposed the building of two low dams, one where Yellowtail is today and another about 70 miles upriver near where the town of Kane, Wyoming, once stood. In 1950, it was finally decided that building one large dam would be the most efficient idea.
- According to the National Park Service, the Bighorn River is one of the best trout fishing streams in the U.S., thanks to the Yellowtail Dam. The dam created a classic tailwater fishery that is cold in the summer and ice-free in the winter, where both rainbow and brown trout flourish.
- Bighorn Lake, created by the dam, extends 70 miles and crosses into Wyoming. The lake covers approximately 17,300 acres, making it one of the largest reservoirs in the Missouri River Basin.
- Bighorn Canyon National Recreation Area was established on Oct. 15, 1966, after the construction of the Yellowtail Dam.
- Today, Bighorn Canyon National Recreation Area, which includes Bighorn Lake and Yellowtail Dam, welcomes over 200,000 visitors annually for boating, hiking, fishing, wildlife viewing and other outdoor activities.

EVENTS CALENDAR

MAY
1-3

TULIP TIME

Pella, Iowa
visitpella.com/tulip_time

MAY
3

SIOUXPERMAN TRIATHALON

Sioux Center, Iowa
siouxperman.com

MAY
7-8

MRES ANNUAL MEETING

Sioux Falls, S.D.
mrenergy.com/events

MAY
15-17

FESTIVAL OF BIRDS

Detroit Lakes, Minnesota
visitdetroitlakes.com

JUNE
6-11

APPA NATIONAL CONFERENCE

New Orleans, Louisiana
publicpower.org/education-and-events

JUNE
13-14

WINDSURFING REGATA & MUSIC FESTIVAL

Worthington, Minnesota
worthingtonwindsurfing.net

To have your event listed, send the event's date, name, location and contact information to info@mrenergy.com.

Visit mrenergy.com/events to see a full listing of calendar events for MRES and its members.





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MRES WINS 3RD STRAIGHT DIAMOND SAFETY AWARD

MRES has earned APPA's Safety Award of Excellence for safe operating practices in 2024.

MRES earned a diamond award, which is the highest honor, in the category for utilities with 30,000 - 50,000 worker-hours of annual exposure. This is the third year in a row that the organization has earned the diamond-tier award.

"This recognition is a testament to the unwavering commitment the MRES team shows every day to putting safety first. It reflects the culture we've built, where each of us takes responsibility for ensuring that we all get home safely every day. I'm incredibly proud of our people and their dedication to excellence not just regarding safety but in everything we do," said Matt Schull, MRES president and CEO.

Jon Beasley, chair of APPA's Safety Committee, understands the critical role safety plays in keeping the power on.

"Harnessing electricity to keep our communities powered is vital work that can be dangerous, even deadly, if the proper attention isn't paid to tried-and-true safety practices. This award honors utilities that hold fast to these practices and in doing so put the safety of their personnel and their customers above all else," Beasley said.

For more than 66 years, APPA has recognized excellence in safety with its annual Safety Awards.

