

currents



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Electric Cooperative
Association, Inc.



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Cover: Trico field crews raised the buckets of their trucks as a show of respect for deceased coworker Paul McDaniel



David Lock, GCSECA CEO

We all are familiar with the law of unintended consequences. An idea or solution is advanced to solve one issue – but the resolution causes another problem, perhaps unforeseen or unanticipated.

President Biden says he wants to de-carbonize the electric sector in 14 years – by 2035. The policy is aimed at combating climate change, which is blamed on increasing amounts of carbon dioxide being emitted into the atmosphere. According to the Environmental Protection Agency, electricity generation produces 26.9% of the carbon dioxide emitted in the United States – a little less than transportation (28.2%).

What might be the tradeoffs – or unintended consequences – of pursuing the president's policy?

According to Robert Bryce, an American author who has extensively studied energy use, the challenges to reach the president's goals are immense. According to the latest numbers from the Energy Information Administration, U.S. electric generators of all kinds generated 3,144 terawatts of electricity in 2020. Of those, 107 came from solar and 338 from wind. So, these non-emitting resources would have to grow by orders of magnitude to replace fossil fuels, assuming that no new nuclear plants or dams that could produce hydropower will be built in the next 14 years.

Let's assume we could make that generation goal. How would the power get to consumers and businesses? Bryce cites a study by Princeton University that estimates how much transmission infrastructure would be needed to decarbonize the

electric sector by 2040. The study found we would have to increase high-voltage interstate transmission from 330 gigawatt-kilometers to 805 gigawatt kilometers. I don't know what a gigawatt-kilometer is, but basically we would have to triple the amount of existing high voltage transmission, according to Princeton's study.

Obviously, generation and transmission infrastructure take a lot of space. Bryce estimates that if we replaced all of the carbon-emitting electric generation with wind, it would take 566,000 miles of land. That's two Californias.

What might be consequences of pursuing and realizing this policy goal? Affordability and reliability are cornerstones of almost every electricity provider's core values. It would seem the costs of this undertaking would be enormous – certainly, electricity would increase by incorporating necessary capital costs to complete this work. And what of reliability? Bryce calls our nation's electric grid the "mother network" of all things. Without reliable electricity, life as we know it doesn't exist. Can we make such a massive transformation of our electric grid without imperiling the reliability we all take for granted?

There are other examples. President Biden has called for a temporary halt to permit processing on federal lands, so projects can be reviewed for their efficacy. While local agencies have some latitude and are working with our co-ops to finalize permits, an unintended consequence of the president's action could delay a broadband project in western Arizona (the president has identified rural broadband development as a priority) and impact reliability to farmers in eastern Arizona.

I'm not being critical of the president or his actions. But I've been around long enough to witness the law of unintended consequences and its effects.

Dave Lock

LAKESIDE – A Tempe-based association comprised of rural electric cooperatives and other consumer-owned utilities decided to give a lift to a local veterans group.

Grand Canyon State Electric Cooperative Association (GCSECA) recently retired a Chevrolet Equinox SUV, which served the employees of the statewide office well before the decision was made to donate the vehicle for a greater cause.

With new changes made at the GCSECA office, staff and Board members made the unanimous decision to donate the vehicle to an organization with the one of the Seven Cooperative Principles, Concern for Community, in mind. This is when GCSECA member Navopache Electric Cooperative (NEC) suggested that the SUV be donated to local veterans program, Walking Down Ranch Veteran Village.

"This is an amazing gift," said Walking Down Ranch Executive Director, Maggie Heath.

"The generosity of GCSECA and NEC is so appreciated. We help take veterans to appointments, help them move, and other transportation assistance. This vehicle will definitely be of good use. We are very thankful for the donation."

Walking Down Ranch Veteran Village is a unique community that offers veterans and their families an array of services including transitional housing, food, clothes, utilities, medical transportation, phones, medications, and holiday boxes. Since opening in 2014, the organization has assisted 650 veterans in the White Mountains area of Arizona.

"We are happy to be able to find a new home for the Equinox – and know it will be put to good use," said Dave Lock, CEO of GCSECA. "The mission of the Ranch is special – assisting veterans who have defended our country and freedoms. We're glad we can assist the Ranch in its important work."

Electric Cooperatives hold the Seven Cooperative Principles at their core, with Concern for Community being one of these foundational values. GCSECA and its members not only desire to keep these principles at the forefront of their service, but also to aid and encourage these qualities in local organizations.

NEC Board President Brad Baker stated, "This donation represents NEC's continuing commitment to give back to our local communities and especially our veterans."

"NEC is very appreciative of our statewide organization, GCSECA, selecting Walking Down Ranch to donate the Equinox SUV from their retired fleet," said NEC CEO Chuck Moore.

Despite the difficulties that 2020 brought to all communities, GCSECA and its members desire to continue to keep hope alive, and to keep the concerns and needs of the communities in focus as we move through 2021.

About GCSECA (www.gcseca.coop): Grand Canyon State Electric Cooperative Association represents Arizona's electric cooperatives at the local, regional, state and Congressional level, working with elected officials and stakeholders to represent the interests of the rural members of those cooperatives.



From left to right: NEC CEO, Chuck Moore; NEC Board President, Brad Baker; GCSECA Member & Public Relations Manager, Hannah Capozzi; NEC Board Secretary/Treasurer, Dennis Hughes; Walking Down Ranch Store Manager, Jamie Poteet; GCSECA CEO, Dave Lock; GCSECA Executive Assistant, Nancy Garcia; and NEC Board member, Steve Heckathorne.

New Bucket Trucks Give AzGT Transmission Crew Better Reach

When the only way to get parts for your truck is through a military surplus supplier, it's probably time to get a new truck.

"The hydraulic valves I bought last time out of Florida came from a military surplus vendor; I had to prove to them I was a citizen and I wasn't building a bomb, and then they charged me \$800 a valve – but we got it going," said Brad Stretch, AzGT automotive vehicle mechanic III.

The truck in question was the Condor bucket truck that's been in use by AzGT transmission crews for 31 years – about a decade past the time when it was still possible to buy replacement parts without extensive searching.

"I was getting parts from all kinds of sources; I was being told they hadn't been available in 10 years, we'd go find them by getting on the internet, but it was getting to be a real headache," Stretch said.

So exit the Condor, enter the new Versalift, a 24-ton bucket truck with the most modern mechanical and technical features available, including Bluetooth connectivity that can be used to operate the bucket truck controls as well as provide a real-time analysis on just about every system the truck has.



The old Condor boom truck is shown in the background as members of the AzGT transmission crew line up with the new Versalift truck. From left, sitting on the outrigger: Brandon Guinane and Ralph Rodriguez, hotstick linemen apprentices; standing, from left, Jordan Tracey, hotstick lineman apprentice, Barry Jackson, transmission line working foreman, and Brad Stretch, automotive vehicle mechanic III. Not pictured: Jason Searle and Tony Ferraro, hotstick linemen, and Zach Gartin, automotive vehicle mechanic II.



This image shows the view from the bucket to the ground with the boom fully extended to 150 feet.

And, the bucket can go sideways. A long way sideways.

You would think it's important for the boom of a truck used to get someone to the top of a transmission structure to be able to go high, and you'd be right. This boom tops out at 150 feet.

It's also important for the boom to have an extensive reach sideways.

"It will help us work faster and safer. It has the same height as the old truck, but it has more reach sideways; it goes further out," said Barry Jackson, transmission line working foreman.

"The reach is about 75 feet, so you can set the truck up easier, in different areas.

"And that means it's safer, especially when we're working around hot conductor, energized line," Jackson said.

Robert Bivens, transmission maintenance manager, explained it this way:

"Doing the hot work they do, for example, in order to change out the crossarms on the 230 kV (transmission line) hot, we need that side reach and this one has the great side reach in order to get to the end of the arms when we're changing them out," Bivens said.

"With the Condor you had to be set up just right in order to be able to reach; with this one it gives you a little bit of play where you don't have to be as perfect on your setup," Bivens said.

Working "hot" means the lines aren't de-energized. It also means the truck has to be grounded in such a way that if accidental contact occurs, the current goes straight "to ground" and not through the workers or operators of the truck.

The Condor was so old, the crews quit using it to "work hot."

"These are all Class-A trucks, and this one's certified; it's ready to go," Stretch said.

"A Class-A truck is where you 'barehand,' and now we can barehand with confidence. This one was tested on the way here; they hit it with 720 thousand volts and it held up," Stretch said.

Maintenance will be minimal and much less costly.



Jordan Tracey operates the bucket as the boom is fully extended to a height of 150 feet.

"This one, you can go 800 hours between oil changes; the other was 250 hours," Stretch said.

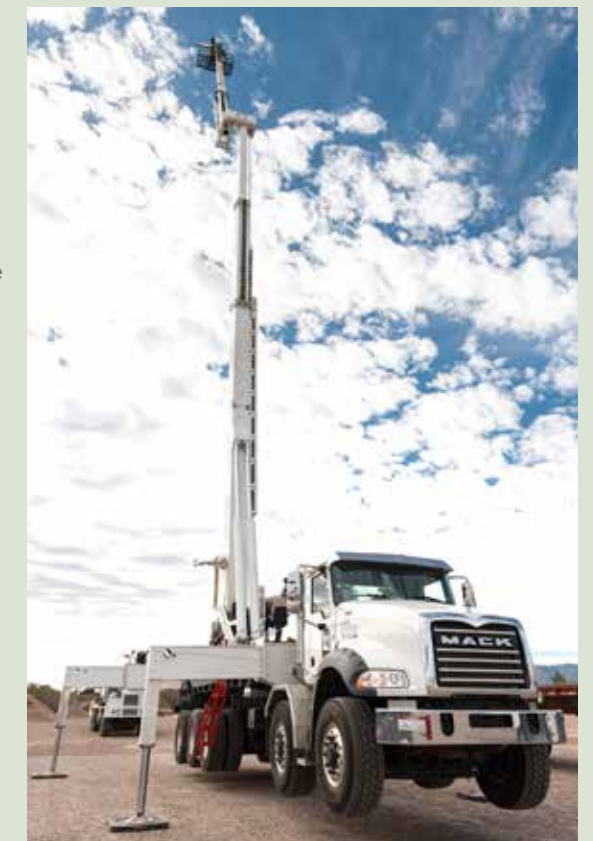
"The old one has an old small-cam Cummins; it's real old school, but it's been tough and it's put up with every driver we've had.

"This is a Mack, 455 horsepower, cruise control, automatic; you just set it and put it in gear and go. We've gone from one extreme to the other; this one's got electric door locks, electric windows, everything is just so beautiful in this thing, and the old one didn't have any suspension in the rear, at all. It really killed the driver," said Stretch.

Bivens said he wanted to thank both Barry Brown, executive director of transmission engineering and maintenance, and the AEPCO board for making it possible to get the Versalift.

"I had to look at this one and other manufacturers, and we had to come up with the justification and what I thought would work best for us, and Barry took it to the board and got it approved for us," Bivens said.

"We're looking forward to using it and seeing what it does for us; just ready to put it to use," said Bivens.



This image shows the Versalift with the boom fully extended to a height of 150 feet.

A Mayor Among Us

Machinist Mechanic Joe Konrad starts 2021 as Benson's new mayor

A philosophy that can often be heard echoing among business leaders and innovative thinkers is that much of an organization's wealth is stored in its people. Arizona Generation and Transmission Cooperatives (AzGT) is no exception. The experience that many of its employees have and the length of time they spend here provide an invaluable resource, for both AzGT as well as the communities it serves. Recently, Joe Konrad provided one of the latest examples when the AzGT machinist mechanic was elected to be the city's next mayor.

"I was excited and deeply humbled. It was certainly an honor," Konrad explained. "I was sworn in by Cochise County Sheriff Mark Dannels. The sheriff and I were at an event back in November and he offered to administer my oath. As with everything else right now, Covid prevented the city from having a large gathering for the ceremony but I was surrounded by my family and that was as special as an occasion can be."

Konrad is no stranger to local politics. He was first elected to the city council in August 2014 and sworn in the following January.

"I got involved in city council because I saw an opportunity to give something back to the community that I call home," Konrad explained. "My family, especially my wife Vicky, encouraged me to run. She got the word out that I was interested and I was surprised and humbled by the number of people who showed up to support me. I knew then that it was the right thing to do."

After five years on the council, Konrad said that running for mayor felt like a natural progression. His peers in Benson city government, which includes the previous mayor, Toney King, also supported his decision. He credits training that he received on the council for preparing him for the new position.

"As a councilmember I participated in training that is provided by the League of Arizona Cities and Towns," Konrad explained. "This training gave me quite a bit of insight into how municipalities operate so I felt that I was up to the challenge."

Less than a month in his new office, Konrad already knows how he wants to start that challenge. By reviewing where the city has been and where they wanted to go five years ago, he will see how they can improve and attract growth for a sustainable future.

Konrad started at AzGT in 2003, long before he would run for Benson City Council. He credits the four-day schedule he has for allowing him to attend council meetings on Monday nights. Perhaps more significant than that is the training he received in the succession management program, and the advice he can still remember from Emery Silvester, who retired earlier this month, which can serve as one more example of the wealth of knowledge in AzGT serving not only its own purposes but those of its community.

"I was in the first group of employees who completed the succession management program and the knowledge I gained from that program has been a great benefit on and off the job. My friend and former co-worker, Emery Silvester, was my mentor at the end of the succession management program. Emery once said to me, 'Joe, would you rather be right all the time or would you rather be effective?' I have always been grateful for the guidance and wisdom that Emery shared with me and I wouldn't have that if not for being a part of this organization," Konrad said. "Our cooperative is recognized by the City of Benson as a key community partner. Being a part of this organization and being able to serve as mayor says a lot about how we adhere to the Seventh Cooperative Principle, Concern for Community."



Cochise County Sheriff Mark Dannels (l) administers the oath of office to the new mayor of Benson, Joe Konrad, AzGT machinist mechanic, while his wife, Vicky, holds the Bible.

Trico Electric Cooperative's Annual Meeting will be virtual on April 24

For the safety of our members and employees, the 2021 Trico Electric Cooperative Annual Meeting will be held virtually on April 24, 2021.

Three seats on the board of directors are up for election in 2021. Election results will be announced during the meeting. Online voting and information on how to join the meeting will be available on Trico's website www.trico.coop.



NEC Starts off 75th Anniversary Year with Capital Credit Retirement!

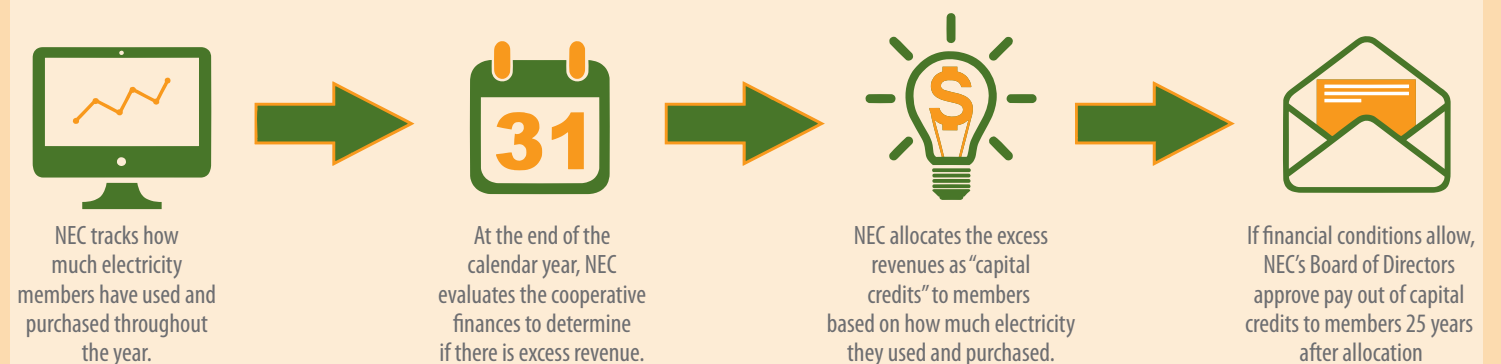
It has been a long time since Navopache Electric Cooperative ("NEC") has been in the position to retire capital credits for their members. In fact, the last time was in 1997 when they retired the 1973 capital credits. They are happy to announce that this year, their 75th year in operation, they are able to start retiring capital credits once again.

Under the direction and guidance of CEO, Chuck Moore, NEC management has been making strategic financial decisions to move NEC into a much stronger financial position than they have had in past years. Management of wholesale power purchases has allowed NEC to credit its members' bills through the Purchased Power and Fuel Cost Adjuster every month since 2016, totaling more than \$35 million. NEC recently refinanced all of its long-term debt with National Rural Utilities Cooperative Finance Corporation ("CFC") with terms allowing for capital credits to be paid out with a lower equity requirement.

Due to this continued financial improvement and stability, NEC's Board of Directors has approved management's recommendation to retire 100% of the capital credits allocated to members for the years 1974 through 1983, reflecting their contribution of capital to, and ownership of, the cooperative during those years. While these margin allocations were made a long time ago, retention of these funds helped NEC keep rate adjustments manageable for its members and reduced the amount of debt required to build, maintain, and improve the reliability of the electric distribution system. This retirement of capital credits at the end of February 2021 represents payments of \$2,551,031 to over 22,000 past and present members.


NEC will be issuing checks to members who earned more than \$10.00 of capital credits between 1974 and 1983. Because the capital credits are from such a long time ago, NEC's Member Care Team has set up a dedicated phone line and email to assist members with all things related to capital credits.

HOW DO CAPITAL CREDITS WORK?





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Want to know more about your Arizona Legislators and how to contact them?

For a full Arizona Legislative directory, visit

<https://www.gcseca.coop/services/publications-communications/>

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Longtime Trico Electric Cooperative employee passes away

On January 19, 2021, the Trico Electric Cooperative family suffered the loss of longtime employee Paul McDaniel.

"Paul was a great mentor, leader and friend to all of us at Trico," CEO/GM Vin Nitido said. "I will miss his quiet competence and great sense of humor."

Paul first joined Trico in May 1976 as a journeyman lineman. He retired on January 8, 2021 as manager of distribution maintenance.



"Paul was a great friend, mentor and co-worker," said Scott Rast, Manager of Electric Distribution Operations. "We spent many years in the field together and in the office setting. We had numerous talks about our crews and somehow, we would always end up talking about fishing and family. He was a proud grandpa and enjoyed going to football and baseball games. I will miss your sense of humor and the friendship we built over the years. God bless you and your family till we meet again."

At Paul's funeral, Trico field crews raised the buckets of their trucks as a show of respect. Due to the COVID-19 pandemic, Trico employees were unable to attend the indoor service. However, Paul's family came out to share some family stories and expressed their gratitude for the Trico crews attending.



Paul McDaniel gives Marcus Castillo encouragement during the state Lineman Rodeo and Technical School.