

## PLANNED OUTAGES AND CONTINUING WORK

As outages will be required, we are waiting for a bit of warmer weather to switch over all of Lobdell Point and Green Bay roads to the new underground. You will remember that the north part of Green Bay Road is temporarily connected already and that we will have some changes to make. In addition, we also need to finish some of the secondary work to the homes between Green Bay Road and the Ferry Dock, which may

require brief outages to complete, but those will occur when frost is out of the ground. We do want to complete the primary underground transition while Arni's swamp is still frozen.

As is everyone, we are still struggling a bit with the supply chain issues described in the previous issue of this magazine, and material costs continue to rise. We are hopeful that we can coordinate some underground work on Range Line Road and South Shore Drive

with the paving work that the town and the county have planned for spring. Thinking ahead to this work, we did procure some 10-inch HTPE conduit that we will be able to strategically sleeve roads with, and then we won't have to sawcut new blacktop if we are unable to get material when we need it.

When the weather turns a little better, we also expect to begin installation of the three commercial EV chargers.

### Fiber Project Update:

## WORK WITH QUANTUM AND NRTC CONTINUES

We have received some inside information that decisions on the NTIA grant will occur by the end of February, but that it's still a moving target. Once again, there are no guarantees, but maybe by the time you are reading this March edition of the magazine we will have heard about the grant one way or another.

We will hopefully be moving forward with the mainland work soon and get light to the Island. A number of scheduling meetings are on the docket with Nsight towards accomplishing not only work on the mainland, but the work we will be doing together here on the Island.

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As noted previously, we are not letting the grass grow under our toes while we wait (even though it is unlikely to do much growing in this cold weather).

NRTC contractors, RTS, have installed the DC powerplant in the server room in preparation for Calix and Juniper equipment to arrive and be installed in racking. Fiber entrance routes have been installed in the building, and once it gets here it will be a relatively simple matter to route it from outside the building in to the newly remodeled service room.

Calix and Juniper server equipment will be preconfigured at NRTC labs prior to being shipped to the Island. We are currently in the process of obtaining the necessary IPV4 and IPV6 addresses that will need to be configured into the equipment. Final configuration will require light (activated



Leon and Andrew Backos (father and son) of RTS install DC (Battery) powerplant and route wiring to server racks.

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# Quantum, NRTC

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fiber) to the cooperative.

Quantum employees Pat Keehan and Clinton Tripplett have gotten all the hardware installed on the poles around Green Bay Road. Unfortunately for Quantum and for us, Pat has accepted an offer as a field engineer (his dream job for many years), so he has moved on to greener pastures and we wish him the best. His familiarity with the Island and his experience working in the telcom industry for many years will be missed. Quantum has been gearing up for the install work ahead and you will be seeing a new face working with Clint.



Jason Huston

As I explained last month, at each home and business, adjacent to your meter, we will be installing a NID (network interface device). This is similar to the small box that your current phone is connected to and is pictured below. This is where the fiber will be terminated at your home.



These NIDs are smaller than your meter socket.

If you have an underground service, we will need to discuss with you where this

is placed. It is preferable that the NID be outside the home; however, under certain circumstances it may be necessary that it be inside or on a pole prior to the home. In some cases, where we know the underground service route, we will install these NIDs.

If you have a concern about the location/placement of this box, please contact us. Every home and business will eventually have one and they can easily be moved prior to the installation of the actual fiber drop.

## KARCZ UTILITY SERVICES CREW WORKING FOR YOU

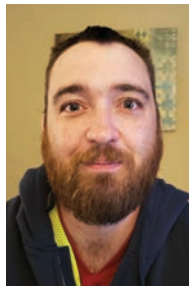
We have been working with Karcz for 20 years now. The company was started in 1994 by Dave Karcz Sr. and started as a pole inspection and treatment operation. Over the years the company has evolved into providing other services to utilities. They still inspect and treat poles. They also provide mapping services, and our now up-to-date GIS map was completed by their personnel. As part of this mapping, they also inspected our entire system and noted such things as stranded wire, loose guy wires, underground elbows that were not fully seated, and other such issues.

Karcz was also featured in an earlier issue of this magazine reinforcing poles that were compromised underground, and you will see them doing more of this work in the near future for us as part of our “make-ready” operation in preparation for fiber installation.

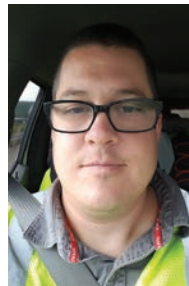
Another new service that they are working on is underground communication installations. They were contracted by Nsight to bury service drops as part of the Luxemburg FTTP project and will be working with us to do the same.

In addition to this they restore underground cabinets although with our limited number of sectionalizing cabinets, this is one task they probably won't be doing for us...but you never know!

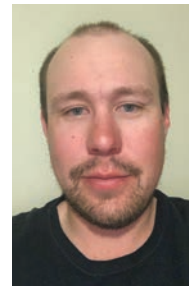
Dave Karcz Jr. heads up the company now and we have been very pleased with the work they have done with us. Karcz is probably one of the few contractors that can say they can list every customer they have worked for as a reference. Much like Quantum, we want you to know the folks who might be in your back yard.



Andrew Wolfram



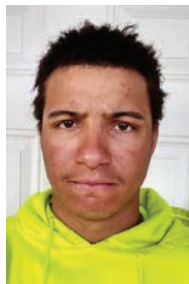
Dave Karcz



Jeremy Harr



Jeremy Mcalpine



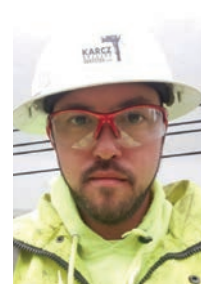
Khalil Provitt



Matt Wendt



Mitch Kupish



William Suprise



# CONTRACTOR HIGHLIGHTS: SAFETY FIRST

## Utility Sales and Service, WECA Safety, and Electrical Testing Labs

**A**s you may or may not be aware, the primary electrical lines that run everywhere on the Island are 7,200 volts phase to ground and 12,470 volts phase to phase. This primary distribution voltage is then stepped down to the 120/240 volts used in your home by the transformer that serves your home. The main feeder line from Wisconsin Public Service (both under water and underground) is 14,400 volts phase to ground and 24,900 volts phase to phase. As you can imagine, there is an inherent danger in working on these lines that must be constantly in the minds of your line crew.

The trucks that the cooperative uses to work on the lines must be insulated so as to isolate them from ground in case of contact with live lines. The chassis of our bucket trucks are grounded when we do this work and our linemen are wearing protective equipment; however, the booms of the bucket truck are generally isolated by a fiberglass section and the hydraulic lines are made of non-conductive material. The liner of the bucket is also an insulating line of defense against live line contact. In addition, it is standard practice to test and ground lines when we are working in outage conditions or building

new line extensions. Those of you who have witnessed our line safety demonstrations will have seen this equipment, and many of you will have seen the picture below left before.

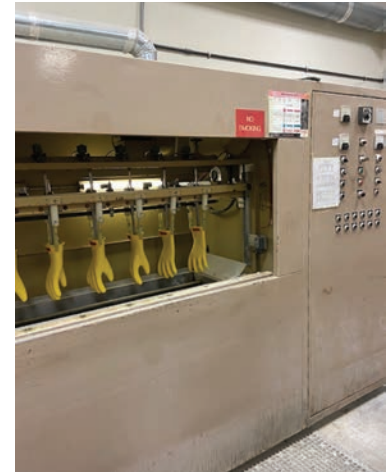
Many things can affect the insulating qualities of the equipment that we use, and before we put on a pair of gloves, we visually inspect both the rubber glove and the leather protector that covers them as well as our extend-sticks and hot sticks. Pinholes in rubber goods can compromise their insulating ability. Dirt on our insulated equipment and cracks in fiberglass can compromise their insulating qualities as well. The various sticks we use for working on the lines are cleaned, inspected, and waxed on a regular basis as is the insulating fiberglass section of our boom trucks. Your crew can only do so much on our own, however.

All rubber goods, such as gloves and sleeves (as well as rubber cover-ups for the line), are sent out to Electrical Testing Labs in Dane, Wisconsin, for testing every six months. The gloves are inflation tested and then also run through an actual dielectric testing machine and exposed to high voltage. Once they have passed the tests, they are returned with a date inked on to each individual piece indicating the end of the six-month period. Each of us has a couple sets of gloves that are rotated through the testing to ensure that everything we are wearing is not only visually inspected personally, but also within the six-month testing period.

If a glove or sleeve fails inspection (and they occasionally do!) we have an arrangement through the Rural Electric Supply Cooperative (RESCO) where a new glove or sleeve replaces the failed one.

The Wisconsin Electric Cooperative Association (WECA) has a safety component in which it contracts with Dairyland Power to send employees to the Island (both in person and virtually) to assist with safety training, but also to assist us with testing our equipment.

Once a year each and every grounding cable and jumper cable is tested for current carrying capacity and integrity.



Gloves are tested at Electrical Testing Labs in Dane. (photo courtesy of Electrical Testing Labs)



Don Johnson uses our live line demonstrator to cook a hotdog (simulating a finger). Note the insulated "hot stick," rubber gloves, and sleeves that he is wearing.

If a ground fails the test, many times disassembling and cleaning all connections is enough to solve the issue. Sometimes a new ferrule will need to be crimped to the wire. Both overhead and underground as well as truck grounding equipment are tested.



Dielectric testing of hotline equipment. (Hubbell photo)

All of our hotline equipment is dielectrically tested at this time as well. A device is run along the equipment, verifying that it does not conduct electricity. If it fails the test, the equipment is generally disassembled, cleaned, waxed, and closely inspected before being tested again. Most times this cleaning will solve the issue and the piece of equipment will pass the test on the second run. If it does not, it must be discarded. In some cases, a component of the equipment can be replaced (as in the case of our extendo sticks) in order to avoid replacing the entire (expensive) tool.

Our trucks are dielectrically tested twice yearly as well, once during a WECA safety visit and once by Utility Sales and Service of Little Chute, Wisconsin.

During the safety visit, the truck is grounded and the bucket is put in contact with live lines using a device that measures any bleed through current. Essentially, the entire truck is tested at once.

When we have our annual inspection of all our trucks (DOT, ANSI and Dielectric), the technician from Utility Sales and service tests each individual component of the boom: lower fiberglass, upper fiberglass, hoses, and bucket liner. Probably the most common cause of a dielectric test failure is dirt. All other components of the hydraulics and mechanical aspects of the lift portion of the truck are also inspected, and if anything needs correction and can be taken care of on site, it is done at that time.

The only big truck we own that is no longer dielectrically tested is the 1986 IHC/Altec digger derrick. We use it only in de-energized situations. While it is still a good truck, its age and general construction would require removal of the boom and disassembly of internal components in order to get it to pass dielectric testing again, and we felt that having the Freightliner digger derrick made this unnecessary.

Even with all the testing and training we go through, safety is still the responsibility of each of us, and when working with our system it takes paying attention in every circumstance to keep us safe.



Dielectric testing of a truck. This is not our machine, although I wish it were!  
(Utility Sales and Service photo, taken in their shop in Little Chute)

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