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Planning -now and for the future





Planning - now and for the future

BY PATRICIA STOCKDILL

Good planning is good business, whether it's for a community-based business, family farm, individual family or a rural electric cooperative such as McLean Electric Cooperative (MEC).

Like all rural electric cooperatives working with the U.S. Department of Agriculture Rural Utilities Services (RUS), McLean Electric completes four-year work plans as part of its obligation to receive RUS lower-than-standard interest rates when funding construction projects, MEC General Manager/CEO Marty Dahl explained.

The process involves identifying and prioritizing projects, yet having the ability to carry over into the next four-year work plan should situations change due to weather, major outage or other factors, described MEC Engineering Manager Lucas Schaaf. "Things change over time," he added. It's critical to have a plan, yet have one with some built-in flexibility.

RUS funds projects identified in four-year work

plans, but not annual work plans, which rural electric cooperatives also develop.

Rural electric cooperatives must first construct and complete a four-year work plan project, Dahl described. It must be inspected and approved by a third-party, independent engineer before loan funding can be accessed. "We pay for it first, and then we draw down on our loan," he said.

McLean Electric uses three funding sources: RUS funding through the Federal Financing Bank (FFB), CoBank and the National Rural Utilities Cooperative Finance Corporation (CFC), which was established by electric cooperatives throughout the United States.

While RUS largely funds McLean Electric's four-year work plan projects, CoBank and CFC are major players when it comes to funding time-sensitive projects. This funding is most helpful during major outage events, especially when expenses exceed \$300,000, Dahl continued.

In those situations, it's important to be able to pay contractors in a timely manner, Dahl added. McLean Electric may seek loans from CoBank or CFC in those situations, receiving funds within a few days. "Having the ability to pay your contractors so it doesn't put them in a financial bind is huge," Dahl described.

McLean Electric's primary contractor, Underwood's

Coal Creek Construction, is often the first to come to the aid of the cooperative when major outages occur, Dahl continued. Having the availability of contractors such as Coal Creek on short notice is essential in restoring electric service during a large-scale outage and it's key to maintain those relations. "There is a lot of trust and confidence in that," Dahl added.

As a federal agency, RUS loan requirements are stringent. For example, RUS requires four-year work plans, which is also good business as a cooperative, Dahl explained. "It helps balance the cash flow and needs, both short-term and long-term. Good planning reduces unnecessary spending. ... You have to have enough to provide good power quality, but you don't want to overbuild."

However, meeting those requirements is more time-consuming.

In addition to identifying four-year work plan projects, McLean Electric and all rural electric cooperatives conduct environmental assessments on all projects within that plan, Schaaf added.

Assessments include archaeological, endangered species and natural resource evaluations, for example. "We do a full-blown environmental report," he explained, working with archaeological, historical and natural resource specialists. "That's contingent on all RUS funding," Schaaf explained.

Depending on project size, an environmental assessment can take two to three months to complete.

McLean Electric's current four-year work plan ends in 2020. Work began on developing a 2021 through 2025 work plan in late 2019. "Our goal is to probably have a 2021-2025 work plan ready in time by the 2020 construction season (in the spring)," Schaaf continued.

As with the current four-year work plan, McLean Electric's next plan focuses on improving electric reliability and quality, Schaaf stressed.

Priorities remain on identifying projects that will reduce voltage drops and blinks, and areas within the county experiencing expansion, whether it's rural residential living, irrigation demands through increased opportunities as Garrison Diversion irrigation progresses, or elsewhere.

McLean Electric also evaluates its more immediate service upgrade needs by developing annual work plans within four-year work plans.

For example, Central Power Electric Cooperative, one of McLean Electric's wholesale electric transmission providers, plans to relocate the Garrison substation, beginning in 2020, Dahl added.

The project calls for removing the 43.8-kilovolt line

and substation from its present location immediately east of McLean Electric's Garrison headquarters, relocating it two miles north and serving it from a new 115-kilovolt line. The benefit is significant to rural Garrison MEC members, as well as those north and west, Dahl explained, because it removes it from its current transmission provider and places it directly on a line served by Central Power Electric Cooperative.

Currently, Otter Tail Power Company's transmission line feeds the Garrison substation line from the electric grid.

Other 2020 work plans tentatively include upgrades east of Snake Creek near Lake Audubon, part of a project started in 2018 that converts to a larger underground phase from its existing line. That project involves about five miles of line, Schaaf explained.

An overhead line will be moved to accommodate mining at Falkirk Mine in 2020.

There is also the potential for upgrades in the area near Fort Stevenson State Park south of Garrison, Dahl added, although that project hasn't been finalized, along with a Garrison Diversion irrigation project.

Most annual work plan projects involve taps off existing lines or specialized projects, Schaaf described. They're flexible enough to fit within an annual plan, allowing for the need to deal with weather, workload and equipment demands.

Or, in other words, going with the flow that is dealing with life on the northern prairie and its wind and weather extremes. ■



2019 included several upgrades

With a continued focus on providing reliable electricity and meeting an increasing load demand, 2019 was another busy year for McLean Electric Cooperative (MEC).

Working in conjunction with contractors, especially Underwood-based Coal Creek Construction, McLean Electric started, continued or completed several line upgrades last year, MEC Engineering Manager Lucas Schaaf described.

About four miles of underground line was replaced in the fall of 2019, part of a larger, long-term project upgrading service in the Mercer area. "We came from the (Mercer) substation to go south of Mercer," Schaaf explained.

While meeting quality and standards at the time, the electric cable was some of the early underground line installed by McLean Electric. "It was 1970s unjacketed cable," Schaaf described.

Today's cable is "jacketed" for additional underground protection, along with including additional technological advances over recent decades, and therefore, less susceptible to issues that can cause outages.

Another project took place at the Wolf Creek Cabin Site along the south shore of Lake Sakakawea. Like many areas along both Lake Sakakawea and Lake Audubon – as well as other McLean County lakes – the Wolf Creek housing development is enjoying ongoing growth and expansion as increasing numbers of people seek the region's outdoor recreational opportunities.

A two-phase line was added to an existing single-phase line. It's all part of the ongoing mission of increasing reliability, along with providing the ability to handle the increased load demand without power blinks, Schaaf added.

Strawberry Lake north of Turtle Lake is an example of growth occurring on other McLean County lakes.

One of the oldest cabin sites McLean Electric serves, a Strawberry Lake 2019 project had multiple benefits to McLean Electric, as well as cabin owners. McLean Electric converted a portion of overhead line to underground cable, with the cooperative and cabin owners working together to cover expenses.

Benefits were threefold, Schaaf explained: Reduce

outages, protect the aesthetics of cabin lots, and help increase the ability to meet load demand.

"Between existing utilities, landscape and the cabins, it was a bit of a challenge (to engineer and construct)," he described. The cabins are within relatively close proximity to each other, trees are large, the lake is a natural bowl, and its cabins are typically on hillsides.

A combination of the proximity of multiple structures and large trees created the potential for outage issues when winds and storms arose. "It gives us more of an ability to sectionalize (during outages). ... It will reduce outage downtime," Schaaf continued.

A similar cost-share project involving McLean Electric and Brush Lake cabin owners converted about one-half mile of overhead line to underground in 2019.

Last year wasn't the first time McLean Electric and its lakeside members teamed up to address overhead line issues, MEC General Manager/CEO Marty Dahl added. It was first done at Garrison Creek along Lake Sakakawea.

"Typically, all cabin owners within a proposed project of that type agree to cost-share with the cooperative to equitably share the expenses that, in turn, benefit all involved," he continued. "It's really a win-win. They (cabin owners) don't have to deal with tree trimming and outages and we don't have to deal with tree-trimming and outages."

Tall trees blowing into overhead power lines or falling onto them is often the cause of storm-related outages. Historically, the alternative to reduce potential tree-related outages in rural residential areas such as cabin sites is to trim back trees. The problem is it's an ongoing project as trees grow again.

The last major 2019 projects for McLean Electric involved working with the White Shield community as ongoing growth continues, Schaaf concluded. Altogether, McLean Electric Cooperative completed approximately 20 miles of line upgrades in 2019. ■

Teaming up for reliable member service: Blue Flint ethanol plant gains more reliable electric transmission

BY PATRICIA STOCKDILL

Blue Flint ethanol plant near Underwood is one of McLean Electric Cooperative's (MEC) largest loads.

For years, the distribution line feeding Blue Flint, as well as the water cooling pumps for Great River Energy's (GRE) Coal Creek Station power plant, came off the regional electric grid from a transmission line that wasn't one of McLean Electric's wholesale providers.

The problem, described McLean Electric General Manager/CEO Marty Dahl, was that while McLean Electric's distribution line was adequate, the transmission line was unreliable for an industrial load, especially one the size of Blue Flint. The result was short electric outage blinks interfering with ethanol production.

Most occurred during summer thunderstorms when lightning strikes near the large transmission line and wind disrupted the line. Historically, the plant had about a dozen blinks a summer. "That's pretty significant," Blue Flint CEO Jeff Zueger described.

Disrupting production was one issue, but the blinks also affected equipment, such as pumps and motors. "We experienced all sorts of secondary issues," he added, "which wear on equipment and create additional maintenance and production challenges."

Two electric cooperative-owned generation and transmission cooperatives, Basin Electric Power Cooperative and Central Power Electric Cooperative (CPEC), as well as a small portion of hydropower from Western Area Power Administration (Western), transmit the vast majority of McLean Electric's wholesale electricity.

However, transmission agreements with wholesale generation and transmission electric providers mean that some McLean Electric service areas still rely on other generation and transmission providers.

Over the course of more than a decade, McLean Electric worked with Central Power about the potential to provide a more reliable transmission source for Blue Flint and Coal Creek Station's cooling pumps by building a transmission line feeding from Central Power's transmission line, which, in turn, is fed from Western's transmission line.

Basin Electric also joined in the effort, making it more cost-effective for the entities involved. Basin

Electric Power Cooperative and Central Power Electric Cooperative entirely funded the new transmission line. McLean Electric's role was to speak on behalf of its two members to underscore the importance of the need for quality, reliable electricity from the transmission end.

Basin Electric also saves money by participating in the project – even though it helped fund the project – because it wasn't going in-between two multi-state regional wholesale providers to serve its members, which includes McLean Electric.

Everything became reality on Dec. 3, 2019. "Our two largest loads will receive much more reliable power and power quality. It will be better for all of us," Dahl described. "So now, we're fed off a very reliable source."

Zueger anticipates significant benefits in reliability now that the line is operational, especially during the summer. The project wouldn't have been possible without the support of the community and landowners, he added, allowing the new transmission line to cross their property, as well as the role McLean Electric played in facilitating the project in conjunction with Basin Electric Power Cooperative and Central Power Electric Cooperative.

The line was initially energized Nov. 6. Over the course of nearly a month, inspections and tests were conducted before putting it online with Blue Flint.

By working together, the new transmission line became a win-win situation, not only for Blue Flint Ethanol and Coal Creek Station, but McLean Electric and the two wholesale providers, Basin Electric and Central Power. ■

About Blue Flint Ethanol:

- Established in 2007.
- Located near Underwood, adjacent to Great River Energy's Coal Creek Station, North Dakota's largest coal-based power plant.
- Annually purchases about 25 million bushels of corn to produce approximately 72 million ethanol gallons.
- Also produces livestock feed grain distillers and corn oil, as well as providing E85 fuel to retail fuel stations in North Dakota.
- Uses Coal Creek's waste stream to power its ethanol refining and dry distillers grains.
- A division of Midwest AgEnergy, which also operates Dakota Spirit ethanol plant near Great River Energy's Spiritwood Station coal-based power plant, Spiritwood.



Energy assistance available

Are you or someone you know having difficulty paying home heating bills? If so, a federal program could help.

The Low Income Home Energy Assistance Program (LIHEAP), administered by the N.D. Department of Human Services and county social service offices, provides home energy assistance to eligible low-income households.

Applications are accepted from Oct. 1-May 31 of each heating season. Applications are available at county social service offices and must be completed each season.

Eligible households are encouraged to apply for assistance for:

HEATING: LIHEAP can pay for a portion of fuel or electricity used to heat your home. The amount of benefit depends on your income, the type and size of your home, and the type of fuel used to heat your home.

WEATHERIZATION: The weatherization program helps low-income families make their homes and apartments energy efficient.

FURNACE AND CHIMNEY CLEANING: The program can pay to clean and inspect your furnace and/or chimney.

EMERGENCY ASSISTANCE: LIHEAP funds are available when there is a home energy emergency that may threaten the life of your family.

ENERGY COST REDUCTION DEVICES: Funds are sometimes available to help with installation costs of energy-reducing devices to qualify for lower electric heat rates.

Contact your local county social services office for eligibility requirements and an application. Additional information is also available on the North Dakota Department of Human Services website, www.nd.gov/dhs/services/financialhelp/energyassist.html.

Burke County	701-377-2313
Divide County	701-965-6521
McLean County	701-462-3581
Mountrail County	701-628-2925
Renville County	701-756-6374
Ward County	701-852-3552
Williams County	701-774-6300

DON'T LET THE CHILL AFFECT YOUR BILL



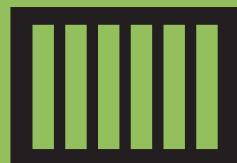
Plug those little leaks, too

Electric wall plugs and switches can allow cold air to enter. Purchase simple-to-install, foam gaskets that fit behind the switch plate and effectively prevent leaks.



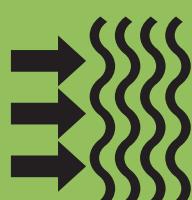
Check your heating system

Get a routine maintenance and inspection of your heating system to make sure it is in good working order.



Put it in reverse

Reverse the switch on your ceiling fans so they blow upward, toward the ceiling.



Yes, winter is here! But don't despair!
You can keep your home comfortable and still keep your energy bills from escalating, with these winter tips from McLean Electric Cooperative:

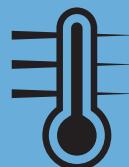
Seal your home

Weatherstripping and caulking are probably the least expensive, most effective ways to save energy in the winter. Check around doors and windows for leaks and drafts. Add weatherstripping and caulk any holes where heat can escape. Make sure doors seal properly.



Close that damper

Don't forget to close the damper on your fireplace when the fireplace is not in use. If the damper is open when you're not using the fireplace, your chimney functions as a large open window that draws warm air out of the room and creates a draft.



Change the filter

Check furnace filters. Be sure to clean or replace your system's air filter. At a minimum, change the filter every three months; a dirty filter clogs the system, making the system work harder to keep you warm.



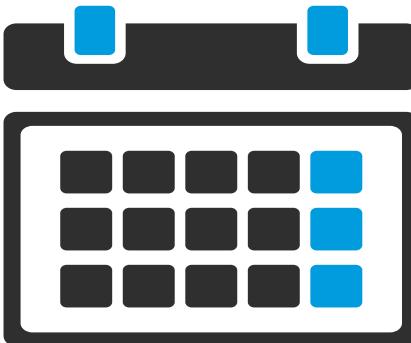
Check your insulation

Insulate your attic. In an older home, that can be the most cost-efficient way to cut home heating costs. Before energy efficiency standards, homes were often built with little or no insulation. As a result, large amounts of heat can be lost through walls, floors and ceilings.

McLean County community calendar:

Events and activities to see and do

BY PATRICIA STOCKDILL



McLean County food pantries:

- **Community Cupboard of Underwood:** 4-6 p.m. Jan. 2; 10 a.m.-noon Jan. 18; 4-6 p.m. Feb. 6, 208 Lincoln Ave.
- **Our Savior Lord's Food Pantry, Max:** noon-3 p.m. and 5-7 p.m. Jan. 20, Max City Hall, 215 Main St.
- **The Lord's Pantry, Turtle Lake:** 2-4 p.m. Jan. 9; 10 a.m.-noon Jan. 25, Trinity Lutheran Church, 515 Kundert St.
- **Wilton Food Pantry, Wilton:** "Mini" distributions every Friday, 11:30 a.m. until gone; full distribution 4-6 p.m. Jan. 16, Wilton Senior Citizens Center, 42 Dakota Ave.

January events:

- **Jan. 1:** First Day Hike, Fort Stevenson State Park, Garrison, 6-7:30 p.m.
- **Jan. 12:** Family Bingo and Cocoa, Max City Hall, 2-4 p.m. Please bring a nonperishable item for the food pantry.
- **Jan. 21:** Underwood Public Library Story Time: Counting Numbers, 10 a.m.

- **Jan. 25:** Taste of Washburn, 5-7 p.m., Washburn Memorial Hall.
- **Jan. 25:** Fat Tire Trail Race, Fort Stevenson State Park, Garrison, 10 a.m. registration, racing begins at 2 p.m.

Early February events:

- **Feb. 1:** Snowshoe Lacing Class, Fort Stevenson State Park, Garrison, 9 a.m.
- **Feb. 5:** McLean County Ag Show, 9 a.m., Garrison High School, Garrison.
- **Feb. 8:** Full Snow Moon Candlelight Hike, Fort Stevenson State Park, 6 p.m. Weather-permitting, hike, cross-country ski or snowshoe the trail lighted with candle luminaries with snacks and refreshments at the Visitor Center.

McLean County organizations and communities can contact Patricia Stockdill by emailing stockdill.patricia@gmail.com, or calling 701-337-5462, to submit listings.

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