



Conversations with customers are important

Sixteen irrigators offered opinions and ideas in a customer focus group that gathered in January.

"The value in the day was sitting down with our irrigators and reaf-

firming that we are all in this together and can work as a team," said Cole Brodine, Manager of Engineering who oversees most of the irrigation programs. "They understand that we are *public* power and we are here to help them."

Two of the main discussion points involved the way Dawson PPD will bill in the future.

The first was a conversion in the units used to measure demand. The second would use data recorded by the meter to determine the power factor of each account.

"I found the two-way conversations to be valuable. I learned quite a bit about what concerns our irrigators and how

much we have in common," explained Gwen Kautz, General Manager.

Customers asked for local irrigator meetings to help update them on Dawson PPD's policies, rebates and programs. There are plans to offer them in early 2021.

Dawson PPD also shared information about energy efficiency incentives, SmartHub ebill use and an electrical safety demonstration.

"I was surprised that the group was open to the idea of monthly billing if it would reduce their costs," Brodine said. The feasibility will be studied. However, irrigators did not favor monthly billing without a discount.



Dawson PPD mechanic Tony Hansen explains how they maintain over 200 pieces of equipment, keeping Dawson PPD vehicles rolling through a variety of conditions. He also discussed the District's standards for replacing vehicles and the ways they save money by installing specialized pickup boxes for three vehicles before they are taken out of service.

Rates are set for the 2020 season

Dawson PPD's board voted to hold the overall increase for irrigation customers to 2.5% for 2020. Adjustments to the individual rates vary according to customer usage patterns and the way they impact the wholesale power bill.

At the same time, the District rebalanced revenue from the demand and the energy charges. While demand charges increased, the energy charges decreased. Fixed charges based on demand are billed in the spring. Energy charges are billed in the fall and are

dependent on weather.

Because the 2018 and 2019 growing seasons were so unusual, the rate study used data from 2017. With the automated metering system, data is recorded every 15 minutes for each irrigation service. This can be correlated with the wholesale power rate Dawson PPD pays to NPPD.

Another 2.5% rate increase is likely for the 2021 irrigation season. In 2019, irrigators experienced a 3% overall increase.

Demand per Horsepower	2020 Rate	2019 Rate
Uncontrolled	\$59.14	\$53.72
One-day control + Sunday	\$53.64	\$48.72
Two-day control + Sunday	\$48.14	\$43.72
Three-day control + Sunday	\$42.64	\$38.72
Four-day control + Sunday	\$37.14	\$33.72
Six-day control + Sunday	\$31.64	\$28.22
Standby	\$22.50	\$22.50

Energy per Kilowatt Hour	2020 Rate	2019 Rate
Uncontrolled	\$0.0985	\$0.1042
One-day control + Sunday	\$0.0923	\$0.0979
Two-day control + Sunday	\$0.0860	\$0.0914
Three-day control + Sunday	\$0.0798	\$0.0850
Four-day control + Sunday	\$0.0735	\$0.0785
Six-day control + Sunday	\$0.0610	\$0.0625

Dates and deadlines

March 13	Changes to Load Management options due
April 27	Demand (horsepower) charges due
May 1	Load Management season begins
Sept 30	Load Management officially ends
Nov 25	Energy charges due

Power factor: Using technology for more precision

Power factor is a measurement of how effectively electricity is being used. Currently, Dawson PPD requires power factor correction on irrigation services. This can be a capacitor, a variable frequency drive (VFD) or a high efficiency irrigation motor. Soon, there will be information that shows how effective these devices are.

"Dawson PPD cares about power factor because the collective group of irrigators can affect the power factor for our whole system," explains Cole Brodine, Manager of Engineering. "Nebraska Public Power District requires us to have a power factor of 90% or greater, so that's the standard we set for our customers. Dawson PPD pays more to NPPD for wholesale power if our power factor is below 90%."



Cole Brodine
Manager of Engineering

TECHNOLOGY MAKES IT POSSIBLE
Metering technology has improved. Twenty years ago, irrigation horsepower was calculated by a lineman using a stopwatch and a math formula. Fifteen years ago, Dawson

PPD transitioned to meters that would record the peak demand for the season. Currently, linemen visit each irrigation service and look for a capacitor or VFD, but there is no measurement about their effectiveness. Now, electric meters are capable of recording information about power factor.

A power factor less than 90% will result in an adjusted demand. This will affect the demand fixed charges.

Using preliminary data, Brodine estimates that about two-thirds of irrigation services have a power factor of 80% or better. He says that the customer will need to decide if upgrades would be cost effective in their situation.

"Because this change to using actual power factor data could cause increases for some irrigators, Dawson PPD wants to give customers, electricians and technicians time to make improvements, if needed," Brodine says.

The present requirement for power factor correction equipment on services 10 horsepower or larger will remain in effect through the 2021 irrigation season. The power factor adjustment, based on meter readings, will go into effect with the demand billing in the spring of 2022.

IRRIGATION BILLING METHOD CHANGING

OLD WAY

Does this site have a capacitor or VFD?

Yes

No

Penalty for not having equipment - 10% of the uncontrolled rate, not less than \$59.14

NEW WAY IN 2022

Power Factor is _____%

Power Factor

90-99% - No additional charge

89.9% or less - Dawson PPD will adjust the billing demand to reach 90%

TIMELINE OF IMPLEMENTATION

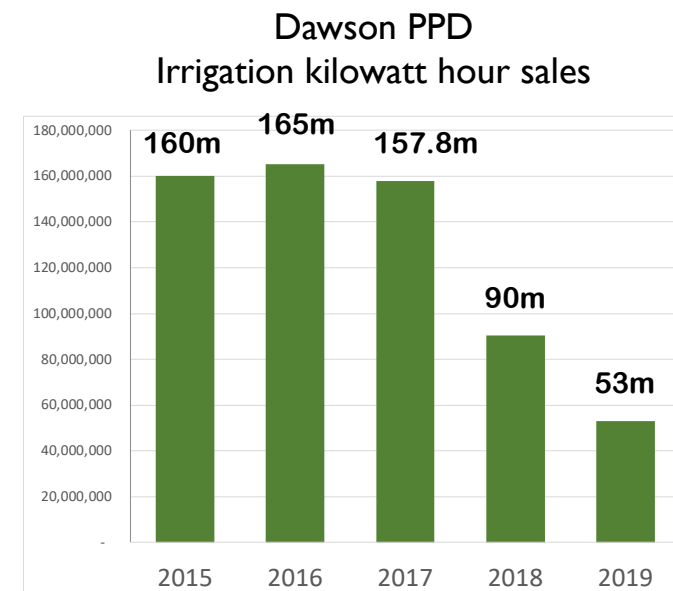
Fall 2020 - Power factor data will be provided to irrigation customers. This will let you know how your equipment is working. Optimal power factor is between 90% and 100%.

Winter 2020/Spring 2021 - Dawson PPD hosts meetings for irrigation techs and customers. We will share practical and technical information about power factor.

Summer 2021 - Power factor data will be calculated based on the peak demand of the irrigation service. The information will be given to customers in the fall.

Spring 2022 - If your power factor is less than 90%, the demand used for billing will be adjusted.

Unusual weather impacts energy use in 2019



Increased precipitation has caused decreased irrigation power sales in 2018 and 2019. While the District is still financially strong, budgets have been cut back and some projects have been delayed.

"Normally, about a third of our revenue comes from irrigation customers," explains Gwen Kautz, Dawson PPD General Manager. "However, the weather plays such a big role in our business. There is an \$8 million

difference between revenue from irrigation 2017 and 2019. Of course some expenses decreased as sales dipped, but it was a big change and we had to consider our priorities."

Dawson PPD invests margins back into the distribution system each year. After 2018, investments were reduced. The continued decline in sales in 2019 further



Gwen Kautz
General Manager

eroded finances. The overall budget for 2020 is about \$2.5 million less than the previous year. Construction and line upgrades projects have been reduced.



**LOOK UP &
LIVE**

Stay away from power lines. Be careful with large equipment.

We sound like a broken record. We repeat the same message, year after year.

But the stakes are high. We don't want anyone to be hurt or killed.

So give yourself a minute to check for power lines. Just look up.



ENERGYWISE

Use less. Spend less. Do more.

Contact us before your next project to see if you qualify for a rebate!

LED shop lighting

Sprinkler nozzles

Pump efficiency

Grain handling system improvements

Variable frequency drives