ENERGYWISE℠

Use less. Spend less. Do more.

Sponsored by Nebraska Public Power District in partnership with its Wholesale Utility Customers.

Get EnergyWise℠ Today

EnergyWise℠ programs offer incentives to homeowners, businesses, and agriculture to help cover the cost of a variety of energy-efficient upgrades.

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GROW MORE WHILE USING LESS

Corner Pivot (VFD) Variable Frequency Drive Program

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Irrigation is the lifeblood of many Nebraska farms...

Farming has always been about balancing input costs to maximize return. During some years, the margin is razor thin. You chose a corner system for your center pivot to get the most from your irrigated acres. But are you getting the most from your corner system?

As corner systems travel through the field, water flow requirements change by 40% or more. You may rely on valves and regulators to control flow but why not start by only pumping as much water as needed at the given time? If your pump is electric, there is only one option; a variable frequency drive (VFD).

VFDs (also referred to as variable speed drives) can reduce output by controlling the motor speed (rpm) rather than having the motor work at a constant, almost full load only to have water flow throttled by the pivot itself. As university studies and real-life installations have indicated, a VFD can reduce the amount of electricity (kilowatt-hours) you use in a season up to 30%. Of course, every system is different so savings will vary.

While incorporating a VFD into your corner system will not likely reduce your connection, demand or horsepower utility charges, it will save energy. Additional benefits include:

- **Control of start up and shutdown procedures**
- **Reduces motor burn outs**
- **Prevents shaft breaks**
- **Reduces wear on pumps, motors and regulators**
- **Keeps pumps working at best efficiency**
- **Reduces voltage drop on power lines at start up**
- **Eliminates need for pump flow control valves in many instances**
- **Controls pump to deliver accurate flows or constant pressures**
- **Minimizes water hammer in pipelines due to controlled acceleration/deceleration**

Note that VFDs do come with their own set of challenges

First, not all motors readily match up with a VFD. Visit with your electrician to ensure your electric pump motor is compatible with the VFD you are considering. Then, ask if the proposed VFD has proper electronic filtering installed. Because of how they function, improperly filtered VFDs can produce power quality issues that could negatively impact your electrical service, your neighbor's or your local utility's load control system. You will not be allowed to operate until your local utility is adequately satisfied that your VFD will not create any of these problems.

Then there is the cost

Typical price tags can range from $100 to $250 per rated horsepower. Fortunately, there is EnergyWise℠. Participating local utilities can provide you an incentive of $12 per rated VFD horsepower to help with your investment.

Start by visiting with your local utility today! They can provide you with more program details and address additional questions you may have.

Incentive

$12/horsepower

ENERGY STAR PARTNER

For program guidelines or application, please visit with your local public power utility or go to www.nppd.com and click on EnergyWise℠ Incentives.