

Energy Use in Agricultural Operations

Sioux Valley Energy serves many dairies and other agriculture operations. June is National Dairy month and as such, we are dedicating this edition of Sioux Valley Energy's *Business PowerUP* newsletter to our agricultural producers. Below you will learn more about energy savings and service upgrades for agricultural operations. In the latest episode of our <u>Inside the Grid</u> podcast, we talk with Lynn Boadwine of Boadwine Farms, Inc., about their operations. We also touch base with Sioux Valley Energy's Sheila Gross to discuss rebate programs that could be beneficial to agricultural producers.

If you have suggestions for future issues or wish to discuss your operation's current and future energy needs, please contact me at jay.buchholz@siouxvalleyenergy.com or call my cell phone at 605-940-2053.

You can find previous issues of Business PowerUP here.



Contact Sioux Valley Energy if you plan to build new grain bins or add equipment to existing sites

Several requests for new grain bin electrical services or for added capacity have been coming in to the Sioux Valley Energy engineering department. These requests are typically for larger bins, additional bins, and grain drying.

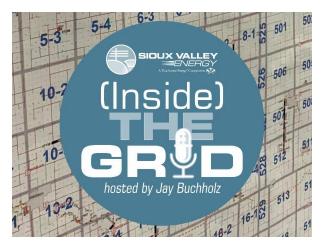
The larger equipment means that motor sizes are larger as well. Many of the requests are for sites with an existing single-phase service. Manager of Engineering Michele Nielson says there have been some issues identified when motors larger than 10 horsepower (hp) are connected with a single-phase service.

"We need farmers to contact us BEFORE purchasing any fans, dryers or other equipment for grain drying. Single-phase motors larger than 10 hp may create voltage problems for your neighbors. We will look at the impacts of these motors at your location and work with you to find solutions," Nielson said.

She added, "In some cases, the solution can be to limit starting current on the motor, to install a three-phase service or to install a phase convertor or VFD (variable frequency drive)."

Avoid creating voltage problems with your neighbors by consulting with Sioux Valley Energy prior to purchasing grain bins or dryers. Call the engineering department at 1-800-234-1960.

Inside The Grid Podcast



In this month's episode of <u>Inside The Grid</u> podcast, I talk dairy, energy, and sustainability with Lynn Boadwine of Boadwine Farms, Inc., near Baltic and also with Sioux Valley Energy's Sheila Gross about ag-related rebates offered by the cooperative.

ITG: Dairy Month



Jay Buchholz, CKAE Key Account and Community Relations Executive



Lynn BoadwineBoadwine Farms, Inc.



Sheila Gross Sioux Valley Energy Energy Services Specialist



- Replace your incandescent bulbs with LED bulbs or an appropriate linear fluorescent lamp. Mercury vapor lamps can be replaced with high pressure sodium lamps.
- If you need more light, consider pulse-start metal halide lamps or linear fluorescent lamps.
- Insulate your barn or machine shed with an R-30 to R-40 value in the ceiling and R-18 value in the sidewalls. Doors should have an R-value of 10 to 12, or 2 inches of foam insulation.
- Even doing simple things like minimizing drafts by aligning doors and windows pays off.
- Running hot water in your livestock buildings? Save as much as 50 percent on water heating costs by using a heat recovery system.
- Your grain drying system may be using the most energy on your farm. Consider replacing your current high-temperature cross-flow dryer with a continuous-flow in-bin dryer and mixed flow dryer. It could be up to 20 percent more efficient.
- Install zone climate control for your machine shed or outbuildings. The savings come from heating or ventilating only rooms or areas of buildings that are used or need more climate control.
- Do fans in your buildings have diffuser or discharge cones? They are about 26 percent more efficient than fans without them.
- Clean your fan blades regularly. Dirt, chaff and animal hair can significantly



reduce air flow. Make sure you dust off all the fan components, too. It will help the motors operate cooler and prolong their life.

While you're at it, you should clean those dirty louvers and shutters that don't open fully. That could be reducing air flow by 40 percent.

RE-ENERGIZING EFFICIENCY



Visit our Website

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