



VFDS DRIVE ENERGY SAVINGS AT EVONIK

The tiny village of Mapleton, Illinois, is home to a chemical processing facility owned by Evonik Industries. The fatty acids produced at the Mapleton plant are a key ingredient in many everyday consumer products, like fabric softeners.

In 2009, the global giant joined forces with the Ameren Illinois Energy Efficiency Program to make motors in the Mapleton plant more efficient. Motors are critical to operations at the Mapleton facility — the driving force behind chemical mixing, cooling towers, water filtration, and other processes.

“We use a lot of pumps and fans driven by motors,” says Contract Engineer Darrell Munton. “And most motors are oversized in order to meet the most demanding conditions.”

With most motors running at full speed more than 70% of the time, regardless of load requirements, Munton knew there was room for efficiency improvements and that variable frequency drives (VFDs) could help.

VFDs enhance efficiency by better matching the motor’s speed to changing processing needs. A small computerized feedback system provides constant monitoring of load requirements and automatically adjusts the motor speed.

Evonik received more than \$51,000 from Ameren Illinois to defray the costs to purchase and install VFDs on seven motors.

“Variable frequency drives add another layer of control, so we can adjust the speed to varying degrees in a way we couldn’t before,” says Munton.

The motors equipped with VFDs don’t work any harder than they need to, which has led to dramatic reductions in energy use that will save the company \$80,800 a year. In addition, the VFDs allow slower acceleration of the motors, which will reduce wear and tear on equipment and lower maintenance costs.

“A lot of facilities have motors that aren’t controlled very effectively,” says Christopher Durand, Program Engineer for Ameren Illinois. “Adding controls makes a system less wasteful — and the Ameren Illinois Energy Efficiency Program can help.”

Today, Evonik is fattening its bottom line by churning out fatty acids more efficiently. All with a little help from Ameren Illinois.

(continued on next page)

“The Ameren Illinois’ energy efficiency team was responsive and cooperative.”

— Darrell Munton, Evonik
Contract Engineer

Benefits to Evonik:

- \$51,564 in incentives
- 1.01 million kWh saved every year
- \$80,809 annual savings in energy costs
- Motors are more responsive to changing operational needs
- Reduced wear and tear on equipment
- Lower maintenance costs
- Project payback in just under 14 months

Evonik VFD Projects

- In 2009, Evonik worked with Ameren Illinois to install variable frequency drives on seven motors.

Process Motors

- Two 50-horsepower pump motors for a reverse osmosis water filtration system
- Two 30-horsepower chemical mixing/agitator motors

Cooling Towers

- Three cooling tower pump motors of varying horsepower

Ameren Illinois Incentives + VFDs = FASTER SAVINGS

"Sometimes customers hesitate to add something new to equipment that is working, but a simple change like adding a VFD can lead to big dollar savings — and doing something now rather than later makes a big difference in your payback. Why not start saving today?"

— Christopher Durand, Evonik
Program Engineer

The Bottom Line

Ameren Illinois provided Evonik more than \$51,000 in incentives to complete six VFD projects. These incentives reduced the collective payback on the projects by 1.15 years and are helping Evonik save more than \$80,800 in energy costs every year!

Get Your Money Back from Ameren Illinois!

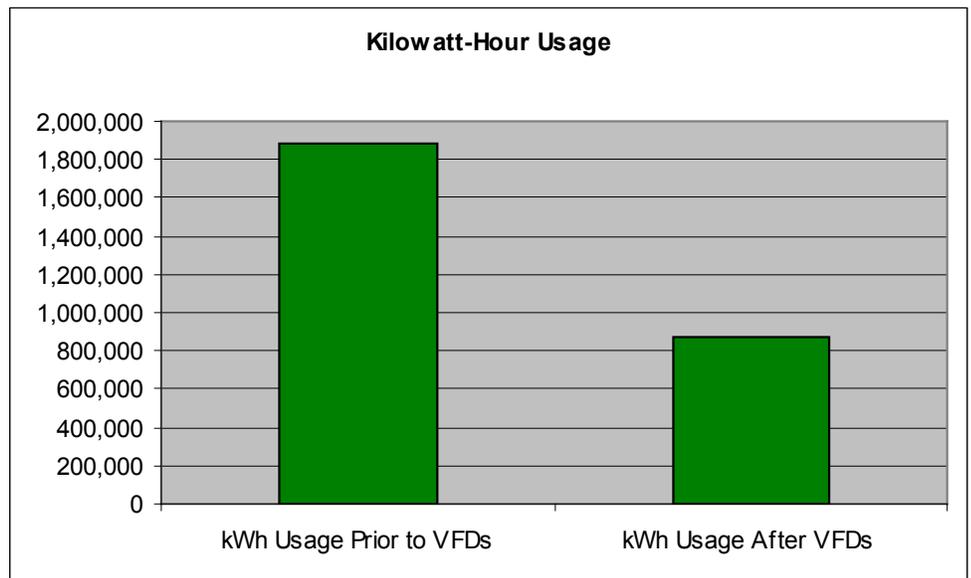
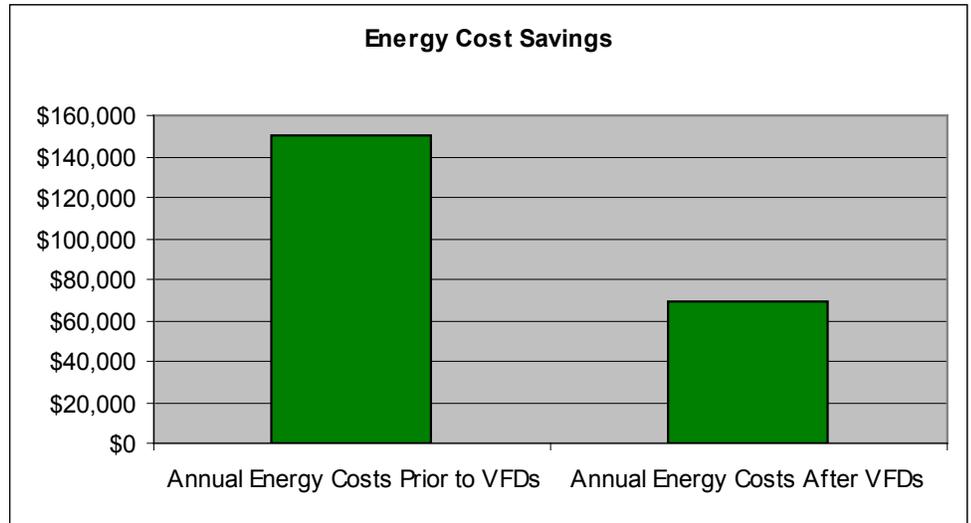
Did you know? Ameren Illinois' energy efficiency programs are funded through a small, state-mandated charge on customer bills (Rider EDR for electricity customers and Rider GER for natural gas customers). It therefore makes sense for businesses to apply for incentives that will help them recover what they are paying into these programs.

Is your company making the most of its investment in Ameren Illinois? If not, call us today to get started!

Energy Efficiency. It's Good Business.

Since 2008, Ameren Illinois has provided more than \$85 million in incentive payments to help business customers save \$350 million dollars in energy costs every year.

Incentives are available for a variety of energy-saving projects, including lighting, heating and cooling, refrigeration, motors, VFDs, process improvements, and compressed air.



READY TO BEGIN?

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