

# Your Role in Energy Management, Part 2

Last month we discussed the basic outline of the new energy management program to be offered by RushShelby Energy in 2010. Created in partnership with Hoosier Energy, this program will allow you to play a role in saving money and protecting the environment.

## What is peak demand?

The two Hoosier Energy generating stations operate twenty-four hours per day, seven days a week. During weekday hours, consumer electric use requires more capacity from those units. Weather also plays a major factor in when peak periods occur.

It is easy to understand that most days of the year, less electricity is used between midnight and 6:00 AM than is used from 4:00 to 8:00 PM. Take that late afternoon period and add a temperature of 95 degrees with 95 percent humidity and the coal-fired generating units can be operating at capacity.

The same situation can occur in the early morning hours of a bitterly cold January day as people awaken, offices and schools open and everyone wants heat and hot water.

At such times, Hoosier Energy may be placed in a situation of needing more electricity and must purchase it on the open market. As with any other product or commodity, the higher the demand and less



supply, the higher the cost.

Open market electricity is purchased in kilowatt (kw) or megawatt (mw) quantities. Once the utility

agrees to make the purchase, the contract must be paid even if they end up not needing all the energy purchased. The cost of these purchased units can be ten, twenty, or even one hundred times the “regular” daily price of electricity.

For this reason, electric utilities have created demand charges within their rates. Industrial and commercial accounts have seen these factors outlined in their rates for years. Many commercial and industrial

accounts pay a monthly charge listed on their bill. The impact is growing so much today, demand charges are becoming more critical in residential rates.

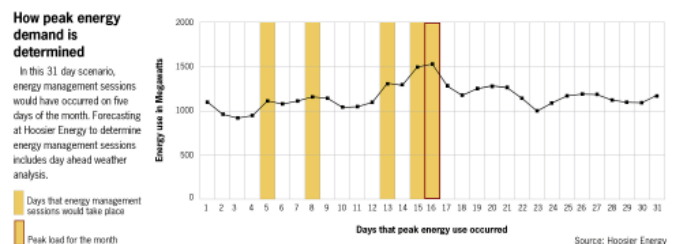
## Are we controlling peaks today?



Yes. Hoosier Energy has been involved in working on the peak for years. The focus has been on the large industrial and commercial

users. Special “interruptible” power rates have been offered to industry. In these programs, Hoosier Energy calls the industry and requires they shut down their facility when Hoosier Energy is facing a peak demand period. The economic benefit to the industry is large, but many industries just can’t deal with an interruption in their computer controlled systems or in their work flow.

Hoosier Energy also plans maintenance work on their facilities outside normal peak times of the year. They cooperate with other midwestern utilities to plan



repair outages and other activity to help each other survive weather related events.

Hoosier Energy also has contracts with other utilities to provide power on demand with negotiated rates that help keep costs down. Hoosier Energy also owns “peaking plants” that operate on natural gas to manage purchased power costs.

It just isn’t enough. That is why we are entering a new era where residential consumers will be invited to play a role in managing the peak. That role will

also allow you to be more involved in controlling your monthly electric bill in the future.

## How does this new program help?

Each energy management switch installed has the ability to control 1 kw of load. Therefore, 5,000 switches installed throughout the Hoosier Energy system would eliminate 5,000 kw or 5 mw. That reduction could mean avoiding the purchase of that power on the open market, savings thousands of dollars.



At RushShelby Energy, our goal is to have 250 energy management switches installed before summer. This would be a combination of switches placed on central air conditioning units and electric

water heaters. This would allow us to reduce our local demand by 250 kw. As the program grows, we would hope to eventually reach 2,000 switch installations. For each kw RushShelby Energy can reduce our demand during the summer, we have savings potential of \$9.85 per kw. With changes in Hoosier Energy's wholesale rate to RushShelby Energy, we benefit from those savings through demand charge savings averaged in the non-control months as well. Sounds like small numbers, but they add up very as more switches are installed locally and in the entire Hoosier Energy system.

## Will you control everyday?

No. Peak demand days occur most often in July and January. Hoosier Energy will be controlling during the most common peak demand periods which will mean June, July, August, December, January and

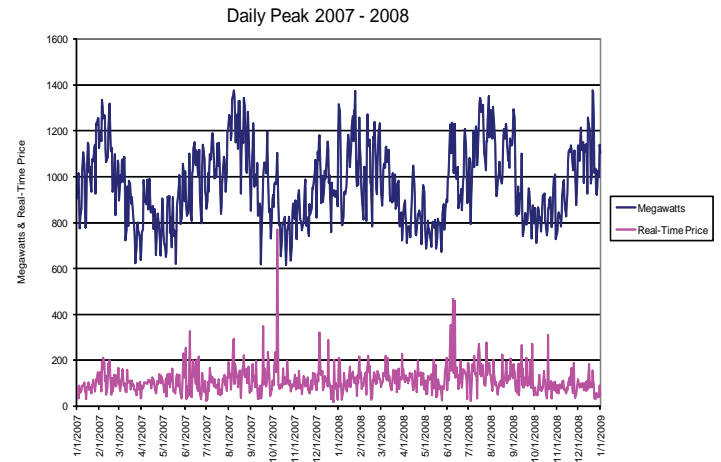
Item	Hour-Ending																							
Time (AM/PM)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Time (Military)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Summer Weekday																								
Summer Weekend	← All Off-Peak →																							
Winter Weekday																								
Winter Weekend	← All Off-Peak →																							
Valley Weekday																								
Valley Weekend	← All Off-Peak →																							

Summer -- June through August  
 Winter -- December through February  
 Valley -- March through May and September through November  
 "On-Peak periods" illustrated in blue shading

February. The controlling is done in the background via computer from Hoosier Energy. You don't need to push, pull or 'switch' anything. It is all done for you, usually without you even knowing it has happened.

This isn't to say that conditions might not warrant a control period during another time of the year, but the program is designed for these normal peak periods.

During these peak months, activating switches may only happen on a few days in the month and for only a few hours. The peak load period causing a demand charge is usually a 15 minute window that occurs in



the late afternoon of a hot summer day or early morning of a cold winter day. It is necessary to control for hours around that expected small window, just to make certain the peak is caught. Control periods will only last for the amount of time necessary to insure the peak is controlled and the economic benefit is realized. Most control days can be anticipated and if announcements of control periods can be made in advance, notice will be given to consumers, most often via our website. However, it will not always be possible to give notice of a control period.

Consumers with energy management switches installed will be able to look at the front of the switch where a light will signify their unit is being controlled. Neither the consumer or RushShelby Energy has the ability to stop or override an active control period since these will be managed by Hoosier Energy.

## What is the benefit to RSE?

We currently pay more than \$8 million per year in demand charges. This amounts to approximately one-third of our purchased power costs. More than 70% of every dollar you send to RushShelby Energy goes to Hoosier Energy. Every dollar we can save here benefits the member through more stable rates. Our members' participation in this program will provide savings that will grow into hundreds of thousands of dollars per year. Those are dollars we can allocate to other important programs and services.

Participation in the energy management program will also help Hoosier Energy minimize the impact of monthly expenses related to purchased power that will minimize, or eliminate, tracker increases.

State and Federal government activity suggests that legislation may be enacted that will require efforts of load control or other energy management programs. By having an active program in place, we can avoid mandates that might otherwise unfairly burden the cooperative or the consumer as they force us to spend money or participate in a program that is not voluntary.

## What's in it for me?

Members participating in this program will receive a small financial incentive. Current estimates show an annual rebate amount to the consumer of \$30 per unit controlled, though this has not been finalized. As a cooperative, members participating in this program will share in the cost savings to a greater extent than those members not participating, though everyone will benefit.

The real value is not in this annual rebate. The benefit to you as a member/owner of RushShelby Energy is your contribution to rate stability. The cumulative benefit of thousands of rural electric members in southern Indiana means reduced costs of purchased



management will cost you, and us all, much more.

The idea of an energy management program is new to Hoosier Energy and to RushShelby Energy. It is not a new idea, though. REMCs in northern Indiana have been involved in "load management" since the early 1980s. Electric cooperatives around the United States have been practicing some form of energy management for decades. Programs center around central air conditioning units and water heaters but many other applications can work as well. Pool and hot tub heaters, irrigation systems, and more can be connected to a switch for participation. It is this detailed experience and history of other cooperatives that allow us to be certain of the benefits of an energy management program to RushShelby Energy and our member/owners.



Touchstone Energy<sup>®</sup>  
Cooperatives

**TOGETHER WE SAVE**

## Glossary of Terms

demand - The amount of electricity drawn from an electric system at a given time, measured in kilowatts.

kilowatt (kw) - The basic unit of electric demand, equal to 1,000 watts; average household demand is 10 to 20 kilowatts.

kilowatt-hour (kwh) - A unit of energy equal to 1,000 watt hours. A 100-watt light bulb burning for 10 hours uses one kilowatt-hour.

megawatt (mw) - Equal to 1,000 kilowatts or 1 million watts

peak demand - The greatest demand placed on an electric system.

peak load - The amount of electric power required by a consumer or a system during peak demand.

## Financial Glossary

RSE Annual Peak - 79,446 kw in January

Demand charges paid by RSE in 2009 - \$8,500,000

Demand as % of Total Power Cost - 35

Summer Billing Demand \$9.85 per kw in 2010

Winter Billing Demand \$6.80 per kw in 2010

Transmission & Substation Demand \$5.38 per kw

Switch on AC unit saves 1 kw

Switch on water heater saves 0.4 kw in summer and 0.8 kw in winter

Estimated annual savings per switch - \$60

### Carbon Footprint: Snapshot of a Typical Home

The average U.S. household emits 21 tons of carbon dioxide annually, an amount that would take more than 4 acres of pine trees to soak up. A family of four, incidentally, emits almost twice that total.



Sources: U.S. Environmental Protection Agency; NRECA

power on the open market. It also means a delay in the need for the construction of a multi-hundred million dollar power plant. Those economic factors are the real benefit to each consumer.

Couple that with an overall reduction in electric generation and you are also contributing to the environment. It may be difficult to measure the exact savings to you, but not becoming involved in energy