

ENERGYLINES

PEAK PERFORMANCE

In January, Hoosier Energy peaking plant assets helped meet regional demand requirements. | **PAGE 3**



Media plan to drive member engagement, co-op brand

Helping electric consumers understand the value their electric cooperative offers is the basis for Hoosier Energy's Touchstone Energy Coordinated Media Plan for 2018. This year's advertising campaign continues the message of being the best source for information in addition to providing safe, reliable power.

Hoosier Energy works with a media buying team and member systems to identify the best media outlets. The areas of widest reach include: radio, print, web and mobile – with a continued to shift toward more digital sources.

Beginning this year, television advertisements have been eliminated and digital components of the media plan will be increased. This provides the ability to reach consumers at home and on-the-go in a more targeted effort.

"The shift we have made toward digital is showing results. Through these channels we are able to drive members to their electric cooperative's website – increasing cooperative brand awareness and drive social media followers," said Hoosier Energy Manager of Communications Claire Gregory.



Sturm named CEO of Johnson County REMC

Johnson County REMC has announced its Board of Directors has approved the appointment of John Sturm as Chief Executive Officer. Sturm will replace current CEO, Chester Aubin.

"John will take Johnson County REMC forward," said Aubin. "His experience in power supply planning for electric utilities, his passion for serving consumers, and his team-focused leadership skills make him an extraordinary fit for Johnson County REMC," continued Aubin, "He is the right person to lead Johnson County REMC into future stages of growth."

Sturm currently serves as President and Owner of Resolution Energy, LLC. His skills as the Manager of Power Marketing and Trading at Wabash Valley Power Association helped define a department which eventually served as the platform for the formation of Alliance for Cooperative Energy Services (ACES). He previously held the position of Manager of Power Trading for ProLiance

Energy before ultimately joining ACES as Vice President of Corporate and Regulatory Affairs.

Sturm holds both a Bachelor of Science in Economics/Finance and Masters of Business Administration from Ball State University (2018).



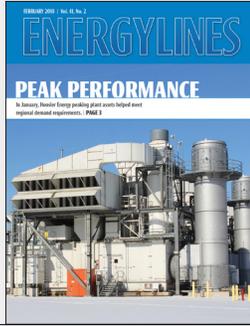
Sturm

"I'm incredibly excited to join the Johnson County REMC team," said Sturm. "Johnson County REMC has that rare combination of reliable and affordable utility services, amazingly talented employees, dedication to technical innovation, and care for the local community. I'm honored to join all the great people who empower Johnson County REMC. As we add capabilities for our members, deepen our presence in the community, and expand into new technologies, our mission remains unchanged – to provide superior utility services now and into the future."

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ON THE COVER

Peaking plants performed well during recent cold weather that led to increased energy demand.



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ALWAYS ON DEFENSE

SOFTWARE AUTOMATES THE PROCESS OF MONITORING NETWORK CHANGES

Playing a role in providing safe, reliable and affordable power to Hoosier Energy member cooperatives is a software program that is always on the lookout for hackers.

During a given week, hackers make numerous attempts to gain access to Hoosier Energy systems. Recently, the G&T was able to block 9,000 threats from China and 8,000 from Russia. Based on these numbers, software called configuration management is at the forefront of defense.

This software monitors attacks made against interconnected systems and networks. Think of the software as a doorbell that lets you know someone is at the door. The software (doorbell) provides awareness about what is taking place around the system (front door).

Hoosier Energy System Control EMS Administrator Jake Steffen and System Control Coordinator Tyler Bonney integrated configuration man-

agement software into existing systems in 2016 to increase awareness and response.

The alerts produced are simple and fast.

If someone tries to create a new login to gain access to a system, the software will provide an alert that something outside of set parameters has occurred. Sent in the form of an email, alerts provide details about what has changed.

If it is a hack, it can happen fast. The software works fast too. It can detect a change in 60 seconds.

“Without this software in place, it would be a tedious process to determine what has happened, test what was learned and then take appropriate action,” said Steffen.

This type of software can't be bought off the shelf – adding to the security it provides. As Steffen and Bonney configured the software they better understood how the underlying operating system worked – which is beneficial for ongoing analysis >>

COVER STORY

“The flexibility of this system allows us to create a system that can collect and analyze anything – the only limit is our imagination.”

Tyler Bonney,
Hoosier Energy
System Control
Coordinator

and review of the alerts generated.

Showing how Hoosier Energy protects systems plays a major role in compliance. Standards are set and audited by the North American Electric Reliability Corporation (NERC)– Critical Infrastructure Protection. This software helps Hoosier Energy meet requirements for system management standards that range from disaster recovery to asset management.

“The flexibility of this platform allows us to create a system that can collect and analyze anything – the only limit is our imagination,” said Bonney. **EL**

Maintaining reliability when regional energy demand increases

Hoosier Energy works hard to ensure electricity is produced and transmitted to member cooperatives safely and reliably – especially during times of extreme weather. Providing a competitive marketplace to buy and sell power is the Midcontinent Independent System Operator (MISO).

Daily, Hoosier Energy offers generation supply available and also purchases our demand requirements.

These markets give Hoosier Energy the opportunity to purchase energy when demand exceeds generation availability and provides the G&T an avenue for selling excess supply.

Cold weather, increased energy demand

In January, Hoosier Energy peaking plants were used to meet regional MISO reliability requirements.

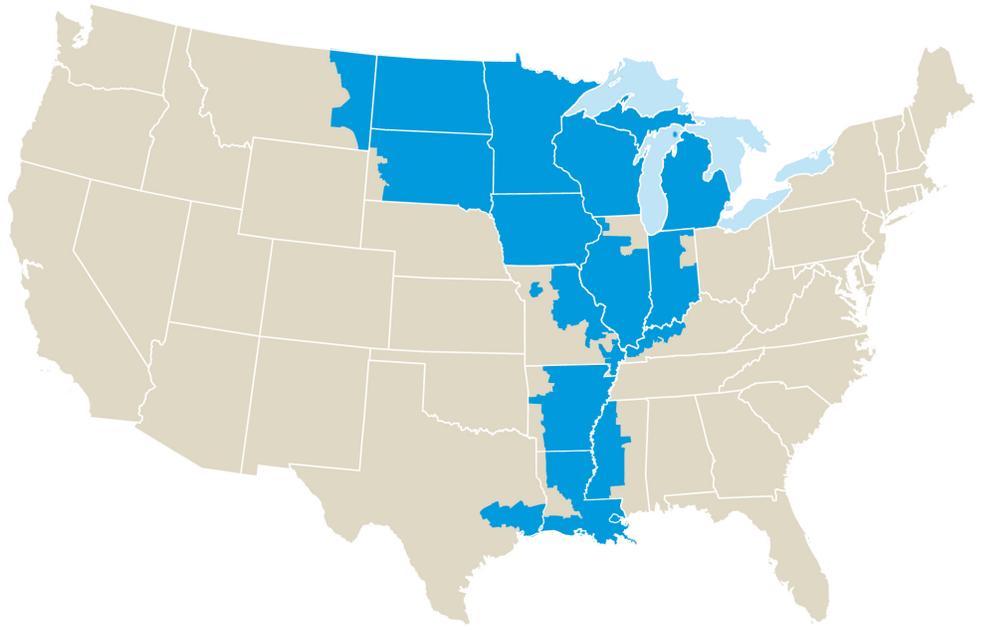
The Lawrence and Worthington Generating Stations are designated peaking stations. These stations have combustion turbines that start quickly to meet energy demand. Natural gas is piped into each unit where the combustion turbines generate electricity. The energy can then be added to the grid and managed by the MISO network.

Early January brought several days of sub-zero temperatures. Demand for electricity was high. MISO anticipated that the demand for the region would be at a higher level than normal. Hoosier Energy’s peaking stations were called up by MISO to respond to the conditions.

DEMAND, continues on Page 5

Regional Transmission Organization

Midcontinent Independent System Operator (MISO) began its energy markets in 2005 as a means to provide reliable delivery of electricity, at the lowest cost, in 15 states and the Canadian province of Manitoba. The U.S. territory is shown in blue. MISO is an essential link in the safe, cost-effective delivery of electric power.



“The crews at these stations knew that they were going to be on-shift for long periods of time and they were ready to keep them running. Both plants performed exceptionally well.”

Greg Vonfeldt,
Manager Gas Production,
Plants



HE photo

POWER TO THE GRID: Power lines near the Lawrence Generating Station transmit power the peaking plants generate – helping meet high energy demand that occurs during cold weather.

DEMAND,

Continued from page 3

Lawrence and Worthington Generating Stations started. The cold spell did not break so the stations ran through the night for the first time since they were built.

“The crews at these stations knew that they were going to be on-shift for long periods of time and they were ready to keep them running,” said Greg Vonfeldt, Manager Gas Production Plant. “Both plants performed exceptionally well.”

Operational reliability was at 100 percent during this peak time. This means that despite the sub-zero conditions, the units started each of the 46 times requested. The Lawrence Generating Station had one unit run continuously for 79 hours, breaking all records.

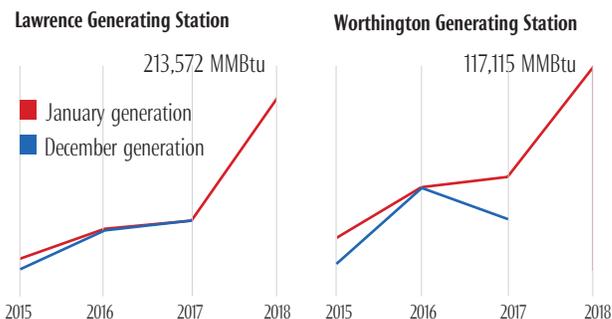
Net generation year-to-date at the Lawrence Generating Station is about 23,000 megawatt hours (MWh). This plant generated most of that in one week. In comparison, net generation produced at the Lawrence Generating Station in all of 2017 was about 40,000 MWh.

New pipeline increases reliability

In order to ensure natural gas is readily available when it is needed the fuels team researched ways to increase the reliability and supply of natural gas to the Worthington Generating Station. Because of this research, Hoosier Energy was able to form an agreement with Citizens Gas to add another pipeline for delivery. Conveniently, the Citizens Gas plant is in close proximity to Worthington Generating Station, providing a reliable delivery system. [EL](#)

Peaking plant generation output

There has been a sharp increase in use of both peaking plants in 2018. Output for the months of December and January are shown for 2015-2018.



The process of preparing for cold weather at Merom Generating Station

Winter months can be challenging. From frozen pipes to ice dams, home and business owners need to be diligent in maintenance. If not, the damage caused could be financially burdening. The Merom Generating Station is no different.

Preparation is the key to a successful winter. Every September, the winter preparation preventative maintenance program begins. This plan includes a total of 120 work orders, taking 650 hours to complete. The work orders are a combination of issues that have caused problems in the past and simple winter maintenance processes. Once this preventative maintenance list is complete, the Merom Generating Station is ready for winter.

Of course, midwest winters are difficult to predict. With each new notice of severe winter weather, a variety of operational changes are made to ensure the plant can meet market demands during the severity of the weather predicted. Some metrics include:

- Scheduling of additional personnel in several areas, including control rooms, material handling and all maintenance



HE photo

MOVING COAL: Material handling equipment moves coal at the generating station. Coal sent directly from mines has lower moisture content and higher British Thermal Unit – providing a steady net heat rate.

groups. Twenty-four hour coverage is maintained with all support groups. If issues are addressed quickly, small problems can be prevented from becoming major problems. Severe cold can make small issues become larger issues very quickly as the temperature dips.

- Additional checks are added for the heating systems to ensure they are operating effectively. Operators take readings on systems, conduct surveys to check for freezing conditions and address any concerns immediately.

- During severe cold weather, the fuels team is able to monitor coal use and schedule extra trains of coal delivery. Coal received from the mine is sent directly into the plant. This coal has a lower moisture

content and higher British Thermal Unit (BTU) than the coal on the storage pile.

Having the extra workforce in place is a great help with winter issues, but the machinery still has to operate at peak performance. Most production systems have heating systems that enable them to operate in very cold temperatures; however, heating systems can fail or be insufficient in the extreme cold temps. When this happens, extraordinary measures must be taken. Some measures used are:

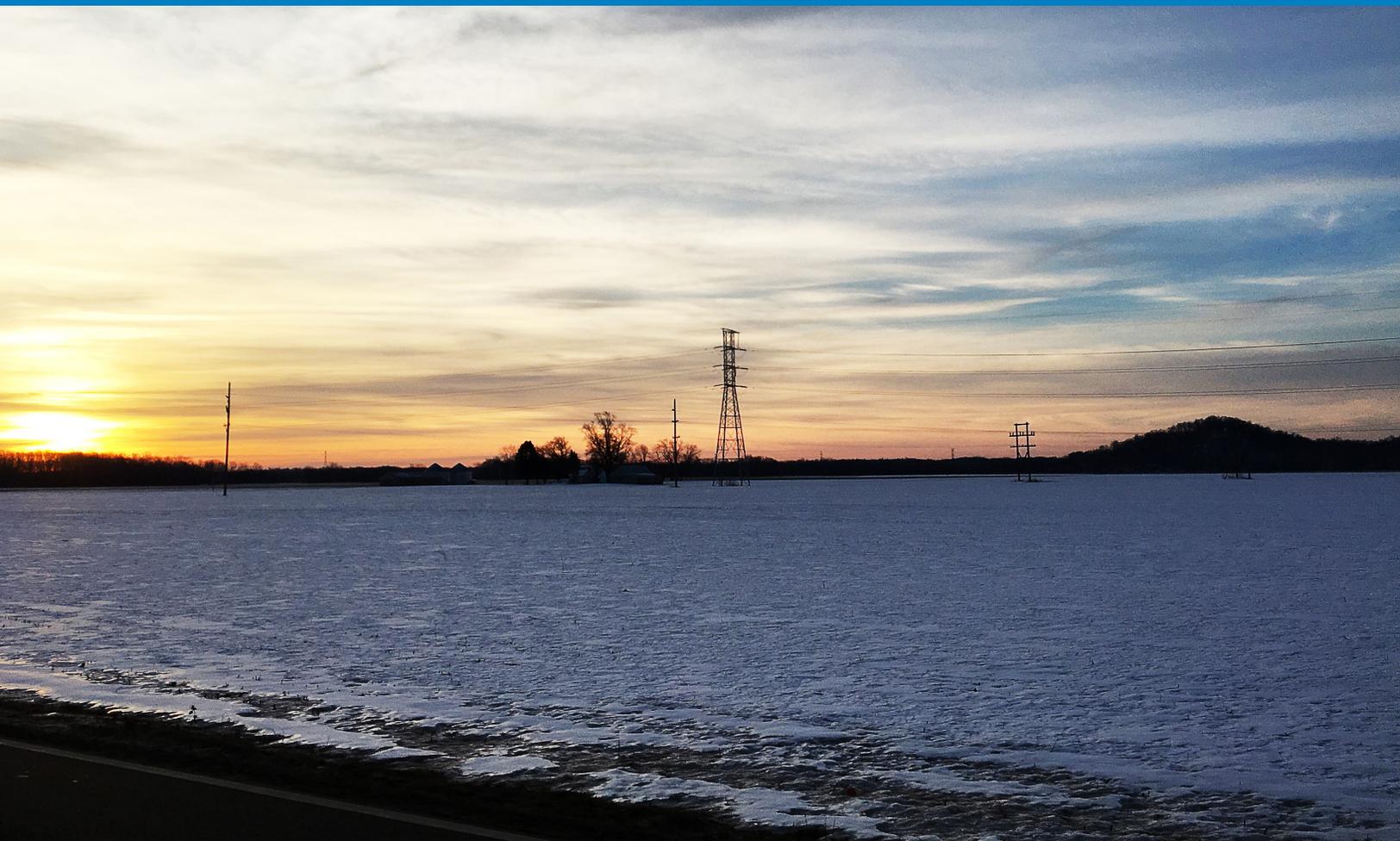
- Building temporary enclosures and running heat into the enclosure to warm the equipment.

- Wrapping equipment in heat trace (a heated wire/tape) and insulating it to keep it from freezing.

- Keeping critical equipment operating around the clock so it does not freeze. Examples include bulldozers, loaders, back hoes and excavators. The coal and limestone belts continuously run to ensure they do not freeze up.

In order to maintain reliability, the station utilizes all employees and contractors during severe weather.

“For us to be successful during the winter, it really comes down to a team effort,” said Karl Back, Plant Manager. “Our people are the key to our success, both those at the plant and those in support roles throughout the company.” [E](#)



Beautiful sunrise contrasts cold temperatures

Extremely cold temperatures and several inches of snow fell in central and southern Indiana and Illinois in January. The temperatures led to Hoosier Energy's natural-gas powered peaking plants to be called upon to meet energy demand. Above, a beautiful sunrise near Martinsville, Ind.