OCTOBER 2018 | Vol. 41, No. 10

# ENERGYLINES


## DIGITAL THREATS

HOW CYBER SECURITY EFFORTS AT HOOSIER ENERGY ARE SECURING THE NETWORK AND IMPROVING THE RELIABILITY OF THE GRID. **PAGES 5-8**

## Marketing and Member Services meeting

*HE photo*

**Member cooperative employees attended the Marketing and Member Service meeting in October. The meeting provides updates from Hoosier Energy on: Demand Side Management programs, Renewable Energy, Communications and Economic Development efforts.**

## Researchers to improve efficiency of wind turbines

According to a recent report by Discovery.com, Harvard University researchers are drawing inspiration from sharks to increase aerodynamics. Shark skin is covered in what is known as denticles – tiny tridents that increase lift and decrease drag. The Harvard team 3-D printed denticles to the surface of an airfoil wing and it proved to act like high-powered vortex generators. The shark-inspired design showed a 323 percent improvement in lift-to-drag ratios. The result could mean huge improvements to wind turbines, airplanes and cars.

**Source:** Discovery.com

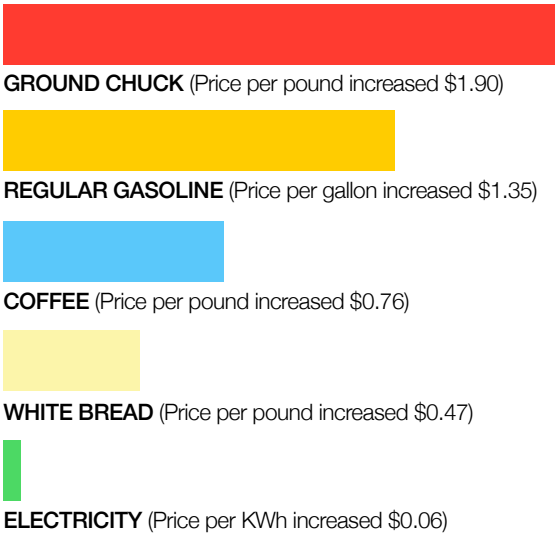
## New York state invests $40 million in solar energy

New York Governor Andrew Cuomo announced in October that $40 million will be available in early November to support solar projects that integrate energy storage. This latest investment is aimed at helping the state reach its energy storage target of 1,500 megawatts by 2025.

**Source:** Energy Manager Today

## THE VALUE OF ELECTRICITY

The cost of energy for member-consumers remains a good value as the price of other products increase. Throughout a 19-year period from 1998 to 2017, energy saw a $0.06 increase per kilowatt hour. In comparison, the cost of ground chuck increased $1.90 per pound.




**SOURCES:** Bureau of Labor Statistics; Hoosier Energy

# Natural gas costs expected to increase this winter

It's likely going to cost consumers more to keep warm this winter.

"On average, Energy Information Administration (EIA) expects natural gas bills to rise by 5 percent and home heating oil by 20 percent. However, expenditures for homes that use propane are expected to be about the same as last winter," the EIA said in its Winter Fuels Outlook.

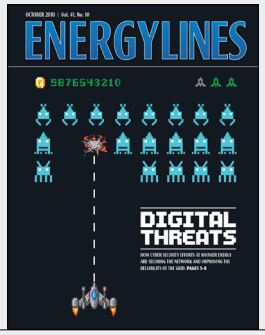
The prices of coal and natural gas delivered to electric generators are expected to be relatively unchanged this winter. The forecast share of total generation provided by coal is 1 percent lower than last winter, averaging about 28 percent. However, EIA expects the share of generation from natural gas to rise from 31 percent to 33 percent.

**Source:** NRECA

# ENERGYLINES

## ON THE COVER

Cyber security threats are on the rise. EnergyLines speaks with Hoosier Energy's cyber security experts.

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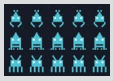
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*HE photo*

**UP FOR DISCUSSION:** Lee Lewellen, left, CEO of the Economic Development Association asks a question during the economic development seminar in September in Indianapolis.

# Development seminar focuses on rural growth

## Member co-ops take advantage of economic development sessions

Hoosier Energy's Economic Development team hosted a seminar on Sept. 13 in Indianapolis. Attendees included representatives from 17 member-cooperatives served by Hoosier Energy.

Five sessions were offered throughout the day, each discussing economic development opportunities that can be created in rural communities. The sessions illustrated examples and approaches of how to develop communities to attract specific industries.

Topics for discussions included United States Department of Agriculture loan and grant application processes, enticing food and beverage companies into your communities, enhancing data center projects, renewable energy growth and the "middle" America housing crisis.

Speakers were from different regions of the country with each reporting on the key aspects that worked in their communities.

"We want co-ops to work together and share what works for them," said Harold Gutzwiller, Member and Key Accounts Manager for Hoosier Energy. EL

## Correction:

Hoosier Energy Senior Storekeeper Mark Harrison was incorrectly identified in a caption on page six of the September issue.


# SOLAR SYSTEM

## Co-op members gravitate toward renewable energy program

The My Solar program is off to a shining start! Since June, five member co-ops (Bartholomew County REMC, Whitewater Valley REMC, Henry County REMC, RushShelby Energy and Harrison REMC) have started enrolling consumer-members.

The goal of the My Solar program is to raise consumer awareness that they have renewable energy as an option. This program allows consumers at participating cooperatives to use solar energy within their home or business without installing or maintaining a solar array and equipment.

The My Solar program offers consumers the opportunity to share in energy produced by the sun by reserving one share of a community solar array. One share is equivalent to the energy generated from one solar panel.

Throughout a year, one share will produce about 450 – 500 kWh. Each member is limited to 12 panels – approximately three kilowatts.

Participating member co-ops are offering different payment options including: monthly payments, an up-front payment option or both options to members. As of mid-October, a total of 27 panels have been reserved for the monthly payment option and 27 panels are reserved for the up-front payment option.

The renewable energy team at Hoosier Energy is working with member co-ops to help them roll out the program to their members.

"We anticipate the majority of members will offer the My Solar program to their member-consumers by the end of 2019," said Hoosier Energy Project Developer for Renewable Energy Chad Jenkins.

**INFO**EXTRA

**>> For more information on the My Solar program, contact Chad Jenkins at cjenkins@hepn.com.**

# Facility tours

## Hoosier Energy employees take pride in giving facility tours to co-op members

Hoosier Energy recently hosted facility tours for nearly 40 people. Tour participants included member managers, directors and co-op employees.

The one-day tours began at the Operations Center in Spencer, Ind. showing system control and the warehouse.

The second stop was at the Worthington Station which has four natural gas-fired combustion turbine engines – diversifying Hoosier Energy's generation portfolio.

The next stop was the Merom Generating Station. This 1,070 MW coal-fired facility stands nine stories tall. Before tours were conducted, Plant Manager, Karl Back and his staff explained operations and recent investments to the station.

While on tour, attendees had first-hand experience learning about the environmental controls in place as well as how the steam generated is used to turn turbines.

Hoosier Energy tour guides have many years of experience and knowledge of facilities and operations. These employees take pride in their work and the facilities they work in. This year's tour guides have nearly 75 years of combined experience.

Conducting a tour at the Merom Generating Station was Kriss Miller, Manager Regulatory Compliance. Miller finds it fulfilling to share with

# help co-op members learn about G&T

*HE photos*

**CLOCKWISE TOP LEFT:**
**Production Manager Ryan Henderson speaks with members during a tour at the Merom Generating Station.**

**Manager of Gas Production Greg Vonfeldt conducted a tour for members at the Worthington Station.**

**Maintenance Manager Tony Weitekamp was a tour guide at the Merom Generating Station.**

co-op members what it takes to make electricity and helping them see how Hoosier Energy is producing electricity in an environmentally safe and reliable manner.

Tony Weitekamp, Hoosier Energy Maintenance Manager said, "It takes a tremendous amount of work to operate, improve, and maintain the Merom Generating Station. I enjoy giving the tours to showcase the work of individuals and to show others what Hoosier Energy has invested in the plant to be a good steward of the environment."

Another tour guide, Ryan Henderson, Hoosier Energy Production Manager connects investments made and how that is helping members.

"While giving tours, we get to recognize that these are the people who are our customers, who invest in us and who rely upon us to perform. We get to show our appreciation by communicating how we utilize these investments to make ourselves more reliable, efficient and competitive," said Henderson. EL

## Operations Center

The Operations Center houses Hoosier Energy's warehouse and system control.

## Worthington Station

The 174-megawatt natural gas-fired generation plant has been in service since 2003.

## Merom Generating Station

This station can produce 1,070 megawatts of electricity – equivalent to approximately 330,000 homes powered for one hour.

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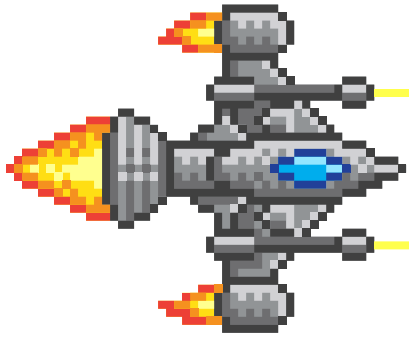
# Q+A



## HOOSIER ENERGY'S RICHIE FIELD FIGHTS ONCOMING THREATS –

As cyber security plays an increasing role for electric utilities to provide safe and reliable energy, EnergyLines sat down with Hoosier Energy's Manager of Cybersecurity and Network Operations Richie Field to learn what the G&T is doing to thwart cyber-based threats.

**What is the top cyber security threat Hoosier Energy faces?**

"Phishing has been our number one security concern – in the past and in the foreseeable future."

**What is a phishing attack?**

"These are attempts from others to gain information like usernames, passwords or credit card information – often through email contact. These types of attacks are taking a new form as hackers are posing as real employees."

**When hackers do this, what are they trying to accomplish?**

"They are trying to verify existing email accounts within an organization. Hackers research employees, often using LinkedIn, collecting names and contact information to create fake email accounts. From this point, they can attempt a phishing attack using emails they know are active – using the personal information they have gathered about real employees."

**What can be done when a phishing attempt like this is made?**

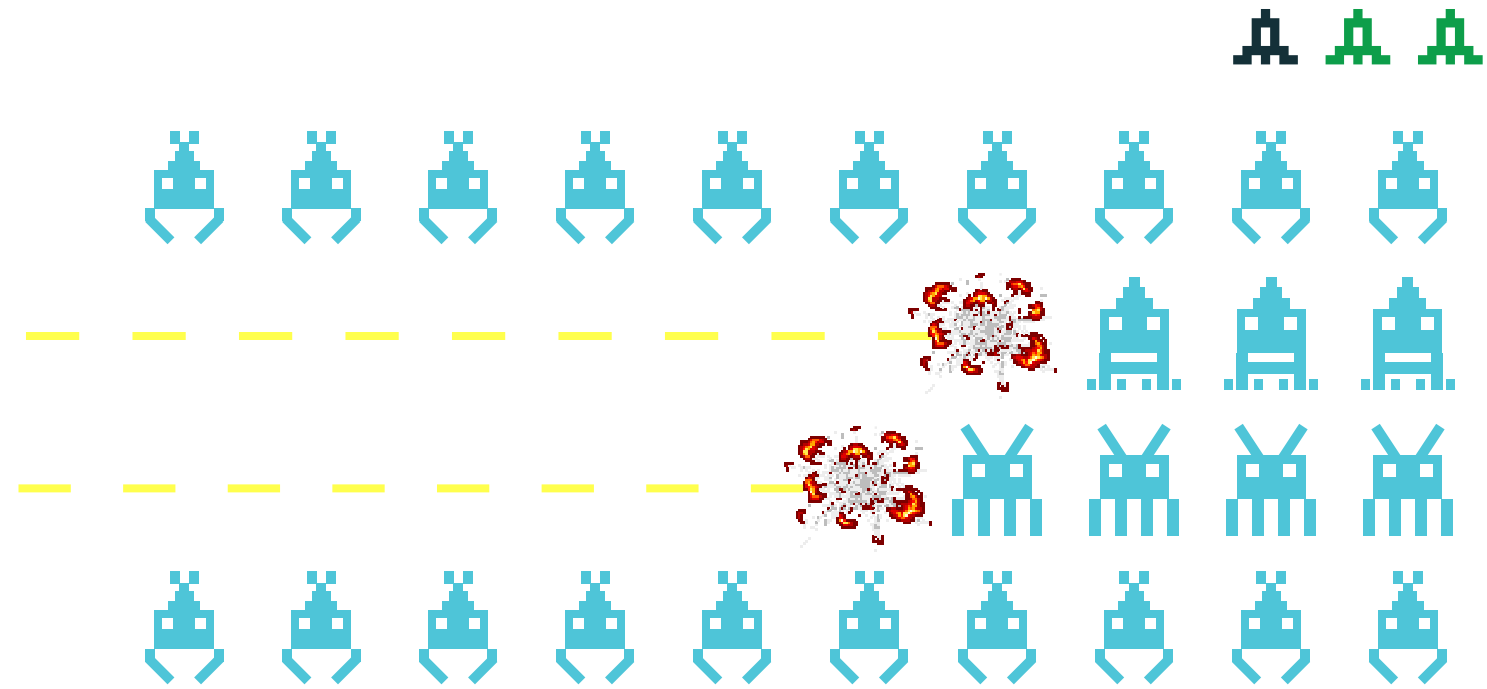
"I recommend to always check the email address from the sender and do not respond to addresses that appear suspicious."

**Any other common attacks that you see often?**

"Another source of attacks comes from fake Office 365 login pages. What happens is, the attack starts as a phishing attempt through email. From here, hackers use links within the email that directs users to fake sites. These login pages look so real that it often fools users. The simple solution is to always be sure you are using a correct URL."

**How is Hoosier Energy working to stay aware of the hacking methods being used outside of our network?**

"This comes down to what is known as threat intelligence. We collect information and get updates from sources including: subscriptions to threat intel resources such as the E-ISAC, our local DHS fusion center, and contacts with the FBI Cyber Squad. Additionally, Hoosier Energy Chief Technology Officer Bob Richhart is a member of the Executive Council on Cybersecurity. This council is charged with enhancing Indiana's ability to prevent, respond to



## -- LIKE A GAME OF SPACE INVADERS

and recover from all types of cyber security issues."

**AV-Test, a German research institute, reports that more than 121 million new malware programs were discovered in 2017. That is equivalent to about 231 new malware samples every minute. What can Hoosier Energy do to prevent malware attempts?**

"We have anti-malware software in place and we focus on making sure this is always up to date. We also have software programs that look at installed applications and flag bad ones to stop them before they run malicious code."

**Data and services are moving to the cloud more and more. For the systems Hoosier Energy has in the cloud, how are we protecting company and employee data?**

"We make sure the cloud-based >>

providers we use take security seriously. We work with those that exceed our requirements – and they can be very secure. Big players in the Cloud Services space like Amazon and Microsoft have built-in cyber security teams in place. This adds another layer of security."

**Attacks happen. If something did occur how diverse is our cyber security response plan?**

"We implement a range of tools in place to help us detect threats. In addition to that, we have solid back-up systems. For example, if something on our system was compromised, such as a server, we could roll back to an un-compromised state and then take the compromised server to the Electricity Information Sharing and Analysis Center (E-ISAC) which is operated by NERC and DOE. They will analyze the data for us. Based on their report we will know what area of the system we need to strengthen and take the appropriate action."

**How is Hoosier Energy securing mobile devices?**

"We work to secure data transferred from a mobile device just as we do on a desktop computer. The challenges of protecting information are the same for both devices. Through phones provided by Hoosier Energy, we have the ability to wipe the data on them if a device is lost." EL

# How to secure personal information on LinkedIn

The popular career networking site, LinkedIn, provides professionals a way to connect with colleagues, business partners and organizations. There is a down side to this connectivity. Based on how privacy settings are set, users might have personal information that can be seen publicly. Hackers know this and use this site to research those they want to attack.

## Three ways to secure information on LinkedIn

LinkedIn users can change how their information is displayed to the public. This is done through "settings and privacy."

### Public profile settings

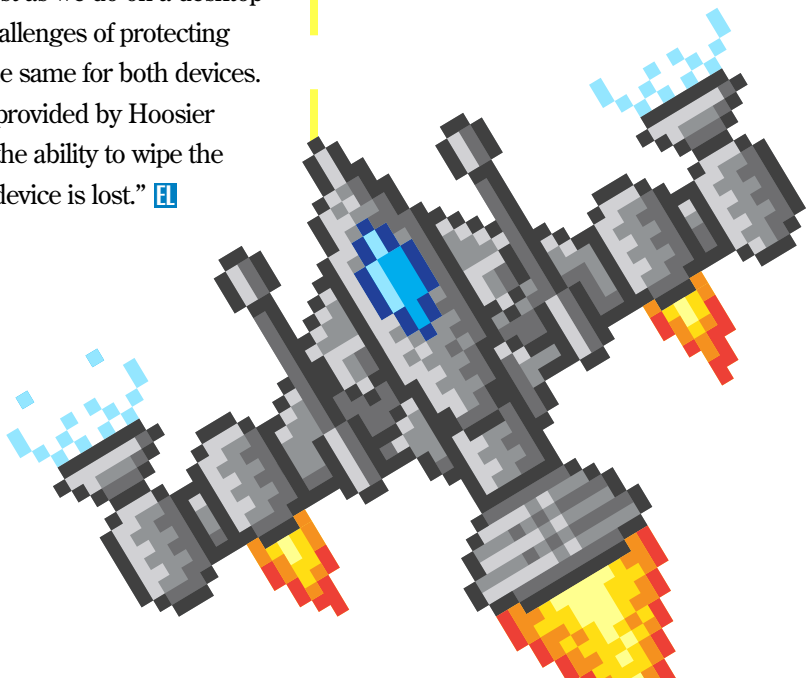
By selecting "Edit your public profile" users can make changes and see how they affect content shown publicly. For example, if the "public" button is selected, your profile and photo will be shown outside of LinkedIn – even on Google searches of your name.

### Email addresses

There are two settings to review to keep an email address private. "Who can see your email address" and "Manage who can discover your profile from your email address." These settings can help users keep their email address private and unable to be used to find a LinkedIn profile.

### LinkedIn login security

You can enable two-step verification to access your account. To set this up, select the "account" tab under settings and privacy. You will be asked to add a phone number to activate the two-step verification. Once activated, you will be required to enter your username and password as well as a second verification method – a code sent to your phone to access your account.



# MAKING HISTORY

Tyler Bonney and Richie Field have done something that no one else at Hoosier Energy has done before. In fact, they helped put Hoosier Energy in the record books. It took lots of research, time and trial and errors.

In September, Bonney, System Control Coordinator, and Field, Manager Cyber Security and Network Operations, were notified by the U.S. Patent office that their patent was approved. The process started in 2012, with the official filing in October of 2013. This was the first patent for Bonney and Field as well as the first for Hoosier Energy.

## The patent work begins

When Bonney and Field first started working together, they were tasked with preparing for the North American Electric Reliability Corporation (NERC) Critical Infrastructure Protection (CIP) audit. >>

"We had pieces of what we needed so we combined them, allowing us to automate the way data was collected."

**Richie Field**
Manager of Cyber Security and Network Operations

This audit is a set of requirements designed to secure the assets for operating North America's bulk electric system.

"We were very nervous about the first audit," said Bonney. "The previous audit showed us where we needed to improve. We knew our job was to get better results."

In order to accomplish this, both began researching all the methods and tools that can be used to recognize discrepancies in the data from servers and workstations. The solution needed to check for inconsistencies in the data – signaling a red flag that needed to be addressed immediately. While there were several tools already out there, nothing fit their exact needs.

This is when Bonney and Field began developing their own program.

They were aware of the different ways to track changes to a network, but they weren't able to find a solution.

"We had pieces of what we needed so we combined them, allowing us to automate the way data was collected," said Field.

This new method allowed for that data to automatically be checked side-by-side with previous data to see what may have changed.

## Getting positive results

As they tested the new program, Bonney and Field continued to improve the program. The NERC CIP audit was coming up and nothing was guaranteed to work.

The audit ended with zero violations. The auditors raved about the results. They encouraged Bonney and Field to apply for a patent.

"It was a time-intensive and tedious process," said Field. "My dad had filed for a patent before, so I leaned on him heavily during the process."

## Continuing to grow and change

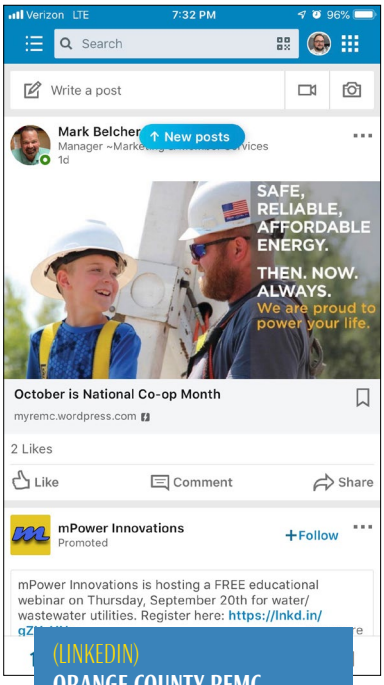
The patent-protected program is still utilized on a 24/7 basis today. It is ever-changing and improving. Jake Steffen, Program Analyst, has taken over the reins on the project.

Notifications that used to take up to 24 hours can now be relayed within minutes. Even with all these modifications, the base patent is still applicable. Today, Steffen is working on creating a graphical user interface. It all started over five years ago, with an idea to make Hoosier Energy's system more secure. EL

CO-OP MONTH

# CO-OPS CONNECT

Member cooperatives got the Co-op Month message out to member-consumers on social media platforms.




(LINKEDIN)
ORANGE COUNTY REMC


(FACEBOOK)
BARTHOLOMEW COUNTY REMC


(FACEBOOK)
CLARK COUNTY REMC


(FACEBOOK)
WIN ENERGY REMC


(LINKEDIN)
SOUTHEASTERN INDIANA REMC


(FACEBOOK)
WHITEWATER VALLEY REMC


# Apprentices, trainers climb to success, safety

Hoosier Energy and member-cooperative employees gain industry-specific training through the Department of Labor-certified Hoosier Energy Apprenticeship, Training and Safety program.

The program began in 1975 and has grown to include programs for line specialists, substation, metering, underground line work, energized lines, climbing school and bucket truck training.