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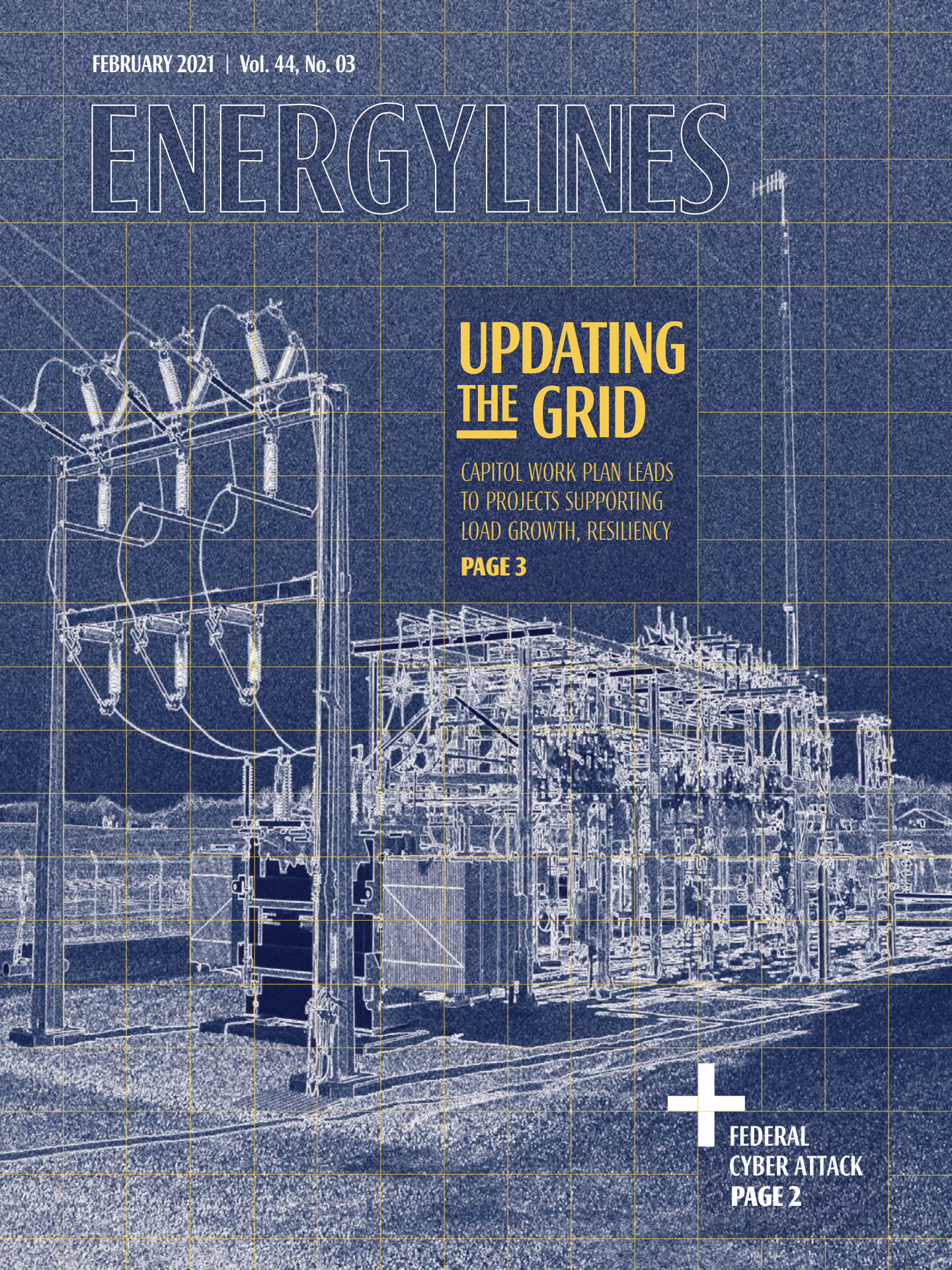
ENERGYLINES



UPDATING THE GRID

CAPITOL WORK PLAN LEADS TO PROJECTS SUPPORTING LOAD GROWTH, RESILIENCY

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ELECTRIC VEHICLE NEWS

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Wireless charging fuels EV options

Automotive, utility and infrastructure companies in Europe are testing wireless dynamic charging systems to allow electric vehicles to charge on the go, but costs to implement this technology are high. According to the Wall Street Journal (WSJ), advocates debate that costs can be reduced by mixing public and private money and deploying at scale – similar to wind turbines.

Working to rollout these systems is French-based company Enedis which is working on a system to meter energy usage in vehicles. Dynamic charging initially makes business sense for larger vehicles that follow consistent routes and can be lined with wireless charging equipment embedded in the road.

ENERGY NEWS

DOE sends requests for bulk power system certification

Beginning March 17, electric utilities that own or operate defense critical electric infrastructure must certify their compliance with the Department of Energy (DOE) ban on the purchase or installation of foreign equipment for the bulk power system.

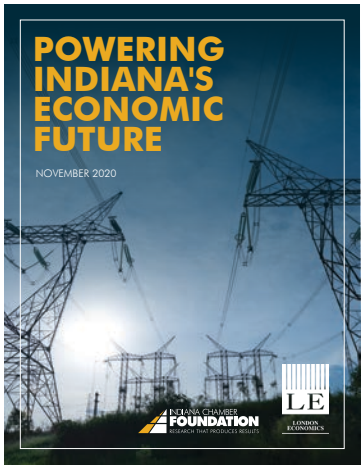
These utilities are required to set up a process to track future equipment transactions. This certification must be renewed every three years.

As a precaution, Hoosier Energy is working directly with the DOE. The internal review also included conversations with Duke Energy due to the interconnection of our systems on the grid.

Neither Hoosier Energy nor Duke Energy Indiana received notice from the DOE.

ON THE COVER

The Farnsley Road substation located near the 1 MW solar array in Harrison County REMC territory is part of the upgrades to the grid through Hoosier Energy's capitol work plan.



Study explores energy direction, economic future

The Indiana Chamber of Commerce Foundation has released a 230-page report exploring the energy direction to power the state's economic future. This study incorporates five scenarios that offer recommendations on how to approach statewide energy goals.

Chamber President and CEO Kevin Brinegar says Indiana has not had a comprehensive energy plan since 2006 and it is critical that the state pay close attention to its energy needs, according to an Inside Indiana Business report.

Part of this study looks at the wholesale energy market. This includes distributed energy pathways, discontinued use of Integrated Resource Plans and/or requiring utilities to unbundle their generation portfolios, while introducing competition at wholesale and retail levels.

EL

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Strategic Priorities

Eight ways Hoosier Energy works to succeed

These are the strategic priorities that the Hoosier Energy workforce strives to achieve every day.

- EMERGING TECHNOLOGIES
- MEMBER FOCUS
- RISK MANAGEMENT
- GOVERNANCE
- COMPETITIVE RATES
- COST MANAGEMENT AND PERFORMANCE
- SUPPLY PORTFOLIO
- OPERATIONAL EXCELLENCE

Schuckman remembered by board

Daniel Lee Schuckman, 76, of Vincennes passed away on Jan. 24, 2021.

Dan was on the WIN Energy Board for 37-years. He was also the co-op's appointed representative as a Hoosier Energy Board member for nine years; five of them as an officer.

With a degree from Purdue University from the School of Agriculture, Dan joined the Illinois National Guard serving for 11 years. He retired as Captain and Commanding Officer of the 682nd Engineer Battalion.

Dan farmed in southwestern Indiana raising cattle and maintaining herds.

In retirement, he was involved in the cemetery at Indiana Presbyterian Church. He helped repair more than 100 damaged headstones.

Dan will be missed by the Hoosier Energy and WIN Energy employees he worked with throughout his cooperative career.

CYBERSECURITY

FEDERAL CYBER ATTACK

SCOPE OF ATTACK CONTINUES TO GROW, MIGHT INCLUDE FERC

An expansive New York Times (NYT) report highlighted what is known about the hacking effort believed to have affected up to 250 federal agencies and businesses. Officials are looking to clarify if the cyber attack was an espionage operation or to insert backdoor access into government agencies, corporations, the electric grid and laboratories developing and transporting new generations of nuclear weapons, the NYT states.

Sources of the NYT are concerned that information might have been taken from victims like the Federal Energy Regulatory Commission. This can include technical documents about Black Start that identify how the U.S. would restore power in the event of a significant blackout.

Affected by the hack was cybersecurity company FireEye. Comprised of threat researchers, malware and intelligence analysts, FireEye is on the frontline of cyber-conflict. FireEye states that its systems were accessed by "a nation with top-tier offensive capabilities" to access its own toolkit, according to the NYT.

Hoosier Energy uses services from FireEye. There has not been any access to G&T data detected to date. Ten member cooperatives use a separate product to monitor networks, and no instances of malware have been detected. Hoosier Energy will continue to update member systems as the national investigation continues.

CYBER, continues on Page 5

UPDATING THE GRID

Hoosier Energy assets are reviewed for replacement to improve performance, reliability. The result is a resilient grid to meet the expectations of member co-ops.

IDEA IN BRIEF

Capital work plan: Hoosier Energy's estimated capital work plan over the next five years totals $248 million with more than 250 projects across transmission, distribution, communication and network systems.

On target: To keep projects on track during the pandemic work plans were quickly organized based on priority leading to significant progress.

Tech advancements: "Our design teams are staying up to speed on technology advancement and where the industry is taking us in regard to communications and distributed energy resources," said Will Kaufman.

Whether adjusting for the pandemic or planning for the future, Hoosier Energy is responsibly executing its capital plans to maintain, repair and upgrade assets to ensure the resiliency of Hoosier Energy's transmission system.

"We're targeting assets that are in the higher-risk category for failure because of their age and condition. That should translate to better asset performance, improved reliability and fewer outages," said Matt Mabrey, Vice President of Operations. "This should give our members a lot of confidence that we're utilizing financial resources wisely."

Hoosier Energy's estimated capital work plan over the next five years totals $248 million, compared to the previous five-year work plan of $228 million. The current estimates incorporate a significant transition compared to the previous plan, according to Vice President of Technical Services Will Kaufman, who explained that $225 million will address transmission-related projects and span from line rebuilds and pole replacements, to communication systems and relay upgrades.

"About $165 million will directly address aging infrastructure, including expansion of communication systems, modernize existing assets and build a resilient grid," Kaufman said.

He added that about $47 million would be directed toward projects that support load growth, including investments in new or expanded substations and lines. New equipment to replace bucket trucks and delivery service vehicles is expected to total about $12 million.

"Our current transmission assets were constructed in the '50s and '60s, up through the 1970s, so when we talk about energy infrastructure, we're approaching the end of useful life of a lot of our assets," Kaufman explained, adding that line

segments are being prioritized based on maintaining system reliability, while managing capital investments necessary to modernize our transmission system. "We're really looking at the aging infrastructure program from those two angles and making sure that we meet members' reliability expectations."

The new five-year plan includes more than 250 different projects across transmission, distribution, communication and network systems.

"Forecasting is as much of an art as it is a science," Kaufman said. "Our design teams are staying up to speed on technology advancement and where the industry is taking us in regard to communications and distributed energy resources. We must ensure we are balancing the needs of today with building a system that can accommodate industry changes on the horizon."

HE PHOTO

INTERCONNECTION: Hoosier Energy is interconnecting to the Troy Solar site owned by Vectren. The 150,000-panel, 50MW facility is expected to be operational this year.

Completing work during the pandemic

Looking forward to the work ahead, Mabrey commended crews for being able to complete major projects in the middle of a pandemic. Those projects include erecting a new substation in Harrison REMC territory near the 1 MW solar array visible from I-64, and completing the Troy solar interconnection by expanding the 161 kV side of the substation and associated line work in Southern Indiana Power territory.

The work schedules fluctuated in mid-March when Hoosier Energy's pandemic response team tackled how to schedule the workforce, so employees were protected from the coronavirus, but still operate and maintain transmission systems.

By March 23, half the transmission operations crews were working at home on standby, while the other half reported to their respective crew sites. Schedules then alternated every two weeks until May 11th, when most transmission personnel returned to their crew sites.

Transmission operations managers Bobby Hill and Brady Mann monitored preventative and corrective maintenance work and determined that preventative maintenance work was behind due to having half crews work for a couple months.

Mabrey said he, Hill and Mann asked Technical Services Engineering to assist in prioritizing the remaining work for the balance of the year, so the work provided the highest value and degree of reliability. The analysis was delivered in just three weeks and provided a high-impact list with three codes – vital planned, essential planned and routine planned – which was used to schedule work for the remainder of the year.

At the end of the year, the results in each representative group, which inclusively has about four to five different types of work orders, saw Communications, Meter-Relay and Delivery Services collectively complete 95 percent of scheduled work, while Vegetation Management achieved 100 percent completion. Mabrey said that the stores department also did an outstanding job managing materials and equipment during the year, which allowed field crews to be successful.

"Success of the completion rates is attributed to excellent work planning, crew skills, attitude and determination to complete the scheduled work," said Mabrey, adding that these results are in addition to multitudes of projects that were completed concurrently with the preventative maintenance work.

"Our crews actually do a lot of the construction, and they do it very efficiently and competitively. We do it very expeditiously and with great quality," Mabrey said. "The guys enjoy getting a mix of new construction, whether it's transmission lines or substations, new SCADA equipment, new switches, or meter/relay upgrades. This type of work brings a lot of satisfaction to the crew members."

He added, "We had a really successful year in the way we accomplished our work during the pandemic." EL

A bird's-eye-view of site development

Drones take to the skies to capture footage, helping market commercial and industrial sites

Marketing commercial and industrial sites for development in member communities consists of detailed data for use by site selectors. This information includes area utilities and regional workforce demographics. Also important are the visuals.

Capturing each property visually involves getting in an aircraft to get a bird's-eye-view. Rising up to 8,000 feet shows site topography and property lines. This can be an expensive and time-consuming process. It is also one that has been dramatically improved by drones.

Today, trained drone pilots enter GPS coordinates, and a drone equipped with a camera take to the sky. With sites as large as 100 acres, a drone makes multiple passes to capture them row by row. When complete, software stitches the images together and the results are high-quality and cost-effective. Add a video camera to the drone and footage is as cinematic as you can get for a field of grass.

These subtle features are part of the effort to attract businesses to member communities. This footage is put to use at HoosierSites.com – a site maintained by the Hoosier Energy Economic Development team to promote Commercial and Industrial (C&I) sites in member communities.

Connecting sites with businesses is part of the work done by Hoosier Energy's Economic Development team.

"Taking the time to find new ways to market sites in member communities is in an important part of the work we do on their behalf. The use of drones help elevate sites so businesses continue to see Indiana as a strong state in which to do business," said Harold Gutzwiller, Manager of Economic Development and Key Accounts.

The first site using the drone footage is the Knox County Industrial Park served by WIN Energy. At elevation, the drone took a 360-degree shot of the property and features such as nearby highways and area businesses can be clearly seen. This aids site selectors as they work with business prospects during the information gathering phase for clients.

"As a picture says a thousand words, these images and videos are part of the toolset used to bring new businesses to Indiana and is driven by our focus on our members," added Jeremy Sowders, Economic Development Manager. EL

CYBER,
Continued from page 2

Senior Manager Cybersecurity and Network Operations Richie Field is the point of contact for information and updates from Hoosier Energy related to this supply chain attack.

"From the onset of this attack, we have been in contact with a number of government leaders and industry vendors related to potential exposure to this," said Field.

Currently, the investigation focused on Solar Winds – an information technology company whose network management software was compromised. Solar Winds was used as a conduit to access systems of the Treasury Department, State Department, Commerce Department, Energy Department and parts of the Pentagon, the NYT reports.

"From the onset of this attack, we have been in contact with a number of government leaders and industry vendors related to potential exposure to this."

RICHIE FIELD
Senior Manger Cybersecurity and Network Operations

ENERGYLINES

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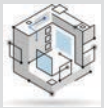

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Q&A

Chris Goffinet, General Counsel

Chris Goffinet started visiting Hoosier Energy with his two law partners in 1993. When one retired and the other left to become a judge, Goffinet took over as Hoosier Energy's general counsel in 2003 and has continued in that capacity since. EnergyLines sat down with him to discuss his favorite activities and the advice he would give his younger self.

What is your best habit?

I enjoy playing outdoors to relax. I love spending time outdoors and especially working around the many large water gardens and fishponds I have built over the years.

What business buzzwords do you never want to hear again?

Best practice; core competency; in terms of; best in class.

So, how do you unplug?

I read a ton of books, mostly fiction novels. I play around in my workshop. When the weather is decent and I am not working, I live outside, cutting firewood, working on my water gardens, and gardening. My favorite pastime is to spend time with my family, especially my 19-month-old granddaughter, who is, of course, the smartest and cutest grandchild ever – until the next one comes along!

What advice would you give your younger self?

Don't think you know what you want to do when you grow up, because it will undoubtedly change. When I started in this business, I never dreamed I would be back living in my hometown and be fortunate enough to represent a great company like Hoosier Energy. I thought I would be a big city trial attorney living in Nashville, Tenn. Also, keep focused on your family, because when things get tough, they are what really matter! I have always tried to put family first, and, after all these years of work, that is the wisest thing I have ever done.

You live in Tell City. What do you enjoy most about it?

I love living in a small town where I can get about anywhere in seven minutes or less. Plus, my whole family lives within an hour of Tell City, and we get together often (or used to…until COVID-19).

What has working at Hoosier Energy meant to you?

Working at Hoosier Energy has allowed me to work with a ton of smart, driven people, who are working on exciting things. Hoosier Energy really is like a big family. I have made a lot of friends over the years. When my daughter had a very serious car accident seven years ago, Hoosier folks came out in droves to support my family. We received dozens of cards and several food baskets while we were at the hospital for a month with her. I will never forget that.

What about time spent away from Hoosier Energy?

My wife, Darla, and I have been married for 35 years. Both natives of Tell City, we are the parents of two daughters, Lauren and Sarah, and a son, Reed. We also have a wonderful granddaughter, Blake, who lights up our world every time we get to see her! EL

ENERGYLINES
2501 South Cooperative Way
Bloomington, IN 47403

Festival Guides provide co-op value

For nearly 49 years, Hoosier Energy and member cooperatives have supported Indiana tourism by sponsoring the Indiana Festival Guide.

The popular and comprehensive publication was distributed to member cooperatives in early 2021.

Cooperatives were supplied social media posts and newsletter content to help promote community festivals.

Hoosier Energy started the festival guide as a service for member cooperatives in 1972.