NOVEMBER 2020 | Vol. 43, No. 11

ENERGYLINES

STORIES FROM THE FRONT LINES

The employees who have the grit to get tough projects done in even tougher weather.

INDUSTRY NEWS

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NextEra attempts takeover of Duke Energy

NextEra Energy attempted a takeover of Duke Energy in the fourth quarter, according to the Wall Street Journal (WSJ). NextEra was testing the waters for a $60 billion deal and Duke was not pleased with the approach. Hostile takeover deals are rare in the electric utility industry.

NextEra is the largest public utility in the U.S. with a value of about $139 billion, according to the WSJ. The utility has acquired smaller assets recently, helping it become a leader in renewable energy using tax subsidies to finance wind and solar projects across the country. The utility's growth is evident, as it was the 30th largest electric utility in 2001 and is the largest in the U.S. today.

INDUSTRY NEWS

Duke sets renewable capacity, methane emission goals

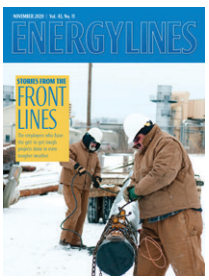
Duke Energy has announced its plan to be net-zero for gas operations by 2030. The utility is approaching methane emission reduction through pipeline improvements. Cast iron pipes will be replaced with plastic or steel-coated pipes to reduce leakage, according to UtilityDive.

The utility plans to double its renewable energy portfolio capacity to 16 GW by 2025 – an increase in its clean energy commitments from previous goals.

The announcement also included early retirements of coal-fired generation in Indiana, according to UtilityDive.

ON THE COVER

From ice to frigid temperatures, winter weather can be tough for line crews. These are stories from the front lines.



REGULATORY NEWS

President Trump replaces FERC chairman

President Trump named James Danly as chairman of the Federal Energy Regulatory Commission. Danly replaces Neil Chatterjee. The five-member commission only has three commissioners in place with two nominees awaiting Senate confirmation since July, according to a Wall Street Journal report.

77,000

CHEVROLET RECALLS EVS

More than 77,000 Chevy Bolts were recalled following owners stating fires ignited near battery packs in the vehicle.

Battery fires pose challenges for electric vehicles

Auto manufacturers – including General Motors (GM), Ford, BMW and Hyundai – are facing issues with electric vehicle (EV) battery fires, according to a Wall Street Journal (WSJ) report.

U.S. safety regulators opened a probe into more than 77,000 Chevy Bolts after two owners stated fires began under the back seat where the battery is located. GM says it is cooperating with the probe that covers 2017 to 2020 model-year vehicles.

In Europe, Ford recalled about 20,500 plug-in hybrid SUVs and warned owners not to charge their vehicles after reports of seven fires, according to the WSJ. Ford says the batteries can overheat and vent hot gases, which can cause other parts of the vehicle to ignite. Stemming from this issue, the Ford Escape plug-in hybrid's launch has been delayed in the U.S. until 2021.

Recalls have also been made by BMW and Hyundai for their plug-in models in recent weeks. The fires highlight the hurdles auto manufacturers and their suppliers face with energy-dense and flammable lithium-ion batteries.

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

+3.2

Residential sales

The EIA forecasts residential-sector retail sales will increase by 3.2 percent in 2020.

-6.2 COMMERCIAL

-5.6 INDUSTRIAL

C&I sales set to decrease

The EIA expects retail sales of electricity to fall by 6.2 percent this year in the commercial sector and by 5.6 percent in the industrial sector.

ELECTRIC SALES FORECAST

Energy Information Administration releases national winter energy outlook

The Energy Information Administration (EIA) forecasts 2.2 percent less electricity consumption in the United States in 2020 compared with 2019. The administration expects retail sales of electricity to fall by 6.2 percent this year in the commercial sector and by 5.6 percent in the industrial sector.

The EIA forecasts residential-sector retail sales will increase by 3.2 percent in 2020. Milder winter temperatures earlier in the year led to lower consumption, offset by increased summer cooling demand and increased electricity use by more people working and attending classes from home.

National Energy Consumption to Remain Consistent

In 2021, EIA forecasts total U.S. electricity consumption will be similar to 2020 consumption. Higher-forecast electricity consumption in the first quarter of 2021 – because of an increase in demand for space heating – is mostly offset by lower-forecast electricity consumption in the third quarter of 2021. This is due to less cooling demand which is based on NOAA forecast of fewer cooling degree days.

The EIA expects U.S. electric generation from natural gas-fired power plants to increase from 37 percent in 2019 to 39 percent this year. In 2021, the forecasted natural gas share declines to 34 percent in response to higher natural gas prices.

Wind, Solar Generating Capacity Set to Increase

Coal's share of electric generation is forecasted to fall from 24 percent in 2019 to 20 percent in 2020. Electricity generation from renewable energy sources rises from 17 percent in 2019 to 20 percent in 2020 and to 22 percent in 2021.

The increase in the share from renewables is the result of planned additions to wind and solar generating capacity. EIA expects 3 percent declines in nuclear generation in both 2020 and 2021, reflecting recent and planned retirements of nuclear generating capacity. The nuclear share of U.S. generation remains close to 20 percent in all years.

Source: Energy Information Administration

Co-op leaders discuss member-focused programs

DISCUSSIONS ENCOMPASS PROGRAMS THAT IMPACT MEMBER-CONSUMERS, RANGING FROM ENERGY AUDITS TO EVS

With the pandemic halting large gatherings across the state, organizers chose to hold the Fall 2020 Marketing and Member Services Meeting virtually. Taking place in six sessions, the virtual meetings provided updates on pilots, offered information on industry programs and facilitated feedback from members in roundtable discussions.

"We were able to create a dynamic agenda that speaks to issues that are of direct interest to our member cooperatives and their member-consumers," says Scott Bowers, Vice President of Public Policy and Member Services.

The Rural Energy Audit Pilot

In the first session, Blake Kleaving, Manager of Energy Management Solutions, explained guidelines and expectations for relaunch of the Rural Energy Audit Pilot Program for member-consumer farms and small businesses.

During the session, Kleaving provided participants a first look at all new marketing and communications materials.

Touchstone Energy Forum

Hoosier Energy Communications Manager Greg Seiter moderated the second session's discussion about Touchstone Energy, which has proven to be a valuable resource – with a sizeable price tag – for many co-ops over the years. This open forum included discussion that will help guide future plans regarding this affiliation.

Indiana Auto Industry Analysis

Automotive manufacturers and suppliers served by member co-ops employ more than 20,000 Hoosiers and account for more than 100 MW of electric demand. This industrial sector is an economic force in Indiana. Bernard Swiecki, Director of the Automotive Communities Partnership at the Center for Automotive Research, gave an in-depth look at the automotive industry for the remainder of 2020 and into 2021 during the third MMSC session.

Member Engagement and Co-op Response During The Pandemic

The pandemic has altered member cooperatives' daily business practices this year. In the fourth session, Harrison REMC's Energy Advisor Nick Geswein moderated a discussion on how work has changed in the pandemic with members sharing unique ways they overcame and engaged with member-consumers during the pandemic.

Future Marketing Pilots, Programs

The fifth session provided information on future programs and services benefiting cooperatives and member-consumers. Kleaving reviewed the past decade of the Team Up – Together We Save marketing campaign and offered an interactive discussion on the future branding of new pilots and program initiatives, including details on upcoming beneficial electrification pilots.

Electric Vehicle Pilot Project

The final session presented by the Emerging Energy Resources team of Ryan Henderson, Josh Cisney and Chad Jenkins, provided an overview of the Electric Vehicle pilot and future pilots. Participants discussed their electric vehicle strategies and experiences rolling out the EV Charger Program.

MEMBER-FOCUSED

RURAL ENERGY AUDIT

Member businesses and farms can apply for review process targeting energy efficiency

Hoosier Energy and member cooperatives, in partnership with GDS Associates, are relaunching the Rural Energy Audit pilot program. This is an opportunity for rural farms and small businesses to take part in an American Society of Agricultural and Biological Engineers (ASABE) Tier II Energy Audit.

Through this process, GDS Associates will audit and analyze energy consumption, facilities, equipment and run-times during on-site visits to determine the best ways to reduce energy use.

The cost of the program is subsidized using United States Department of Agriculture grant funds. Member-consumers are required to pay 25 percent of the cost. Hoosier Energy Manager of Energy Management Solutions Blake Kleaving says having the consumer pay a portion of the audit is important for follow-through.

"When a member-consumer invests money into the audit, they are more likely to make the recommended changes to help reduce their overall energy use," said Kleaving.

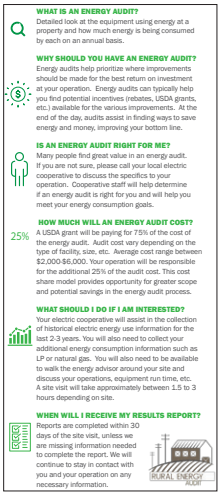
This program targets rural farms and small business but that doesn't leave out larger operations.

"I'm excited that co-ops can look at larger operations. While the entire farm or business doesn't have to be audited, member-consumers can focus on a smaller part of their operation to get the best return on their investment," said Kleaving.

No matter the scale or level of efficiency desired, audits frequently consist of HVAC and lighting review, but can include analysis on a variety of efficiency measures from motors and grain drying to air compressors and insulation.

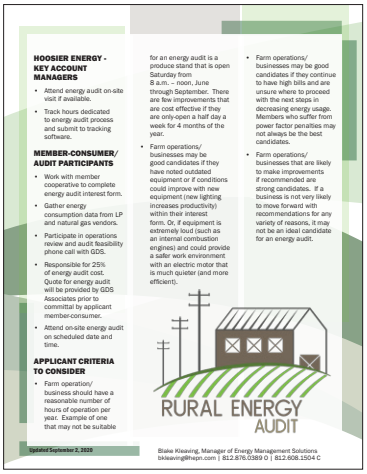
To help member co-ops promote the pilot program, marketing materials have been created, including member co-op expectations and guidelines for the pilot project. Member co-ops will be provided an outreach script with answers to common questions that consumers have.

This includes topics such as: What is an >>



MARKETING MATERIALS

Materials to help co-ops and member-consumers were developed by Hoosier Energy for the Rural Energy Audit pilot. Information includes a program summary targeting farmers and small business owners, an interest form, guidelines and expectations summary and talking points for co-op employees.



"When a member-consumer invests money into the audit, they are more likely to make the recommended changes to help reduce their overall energy use."

BLAKE KLEAVING
Hoosier Energy Manager of Energy Management Solutions

THE AUDIT REPORT

Member co-op farm and business owners selected will have the audit completed by GDS Associates. The report will be available within 30 days of the site visit. This document contains detailed measures that the member-consumer can take to improve efficiency including:

LOW COST RECOMMENDATIONS

■ LED lighting, insulation upgrades and new motors.

LEVEL TWO: Mid-investment recommendations

■ The report includes future improvement recommendations. For example, it might be beneficial for a farmer to consider electric radio grain waves for drying. This level of investment allows member-consumers to apply for new grants and loans.

FOLLOW UP:

■ A follow-up meeting with GDS Associates will take place; audit and findings will be discussed.

energy audit? Why should the consumer have an audit? What are associated costs and the result timetable? A step-by-step guide allows the cooperative to stay on track throughout the audit process.

"We have member-consumers who are really interested in participating, willing to spend money and make upgrades. The marketing resources available are helping communicate this program effectively," said Kleaving.

Co-ops and GDS Associates will determine eligibility based on the information submitted and feasibility of having an audit performed. Member consumers who use 10,000 KWh or more at their farm or business are eligible to apply for the program.

After implementing upgrades, consumers may be able to apply for additional USDA & NRCS grant funds and low-interest loans allowing them to be more active participants through the audit process.

Through programs like this, co-ops are able to provide valuable resources for member-consumers. This helps show how they are working to be a trusted energy partner.

"When member consumers think about energy consumption, such as natural gas, propane, electricity, programs like this let them clearly know they can go to their co-op for a variety of resources," said Kleaving. EL

WHY A TIER II ENERGY AUDIT IS IMPORTANT

A Tier II Energy Audit allows member-consumers to apply for additional grants and low interest loans for upgrades. This includes solar, battery storage, HVAC, insulation, building envelope systems and motor upgrades. Tier II audits provide a higher point ranking when applying for additional grants and loans. For example, if an audit report notes that a turkey barn would benefit from upgraded insulation, the owner can apply for additional funding to pay for the improvements.

IN THE NEWS

ONLINEEXTRA

>> For more information about IPL's new CEO Kristina Lund vist: Iplpower.com

STATE UTILITY NEWS

IPL names new chief executive, fifth since 2015

Indianapolis Power & Light has named Kristina Lund as its new president and CEO, according to an Indianapolis Business Journal report.

Through this role, Lund will also lead Dayton Power & Light. Lund previously was chief product officer for carbon-free energy at parent company AES Corp.

In her new role, she will lead IPL's plan to upgrade its grid through a $1.2 billion investment plan approved by state regulators.

Consumers will pay a $1.50 increase over seven years topping out at $10.50 per month in the seventh year.

STORIES FROM THE FRONT LINES

STORIES FROM THE

FRONT LINES

From overcoming winter weather to utilizing new technology, Hoosier Energy employees give their all to maintain grid resiliency

In his 27 years at Hoosier Energy, Line Foreman Mark Richardson has trekked countless hours across the hills and hollers of southern Indiana and Illinois to find downed power lines. Each winter storm comes with its own challenges complicated by cold temperatures and excessive snowfall.

Richardson recalls a rough snowstorm several years ago, when he and another line worker embarked on foot to find the cause of an outage.

"The snow was probably 10 inches to a foot deep, and we were climbing uphill, downhill – I think I spent more time on my hands and knees than on my feet," he says. "We walked for probably three or four hours straight, and the snow was blowing so hard. It was dark, and you'd shine the flashlight up and couldn't even see the line half the time."

Richardson explains that miles stretch between road crossings, which means line workers often have to hike – regardless of the terrain or weather conditions – to find and fix downed lines. "You just have to fight through it and keep going," he says.

At about daylight, Richardson and a coworker found the culprit power line. "It's just one of those all-nighters that you don't expect to happen, but usually does."

Frank Schmidt, Line Foreman at Napoleon, has had similar experiences in his 36 years working at Hoosier Energy. "We've had storms where we've walked through waist-high snow," he recalls, adding that many of those trips involved hiking several miles to locate lines taken out by fallen trees. During one storm in Orange County, he found himself in a precarious situation. "The pine trees were so loaded down with snow that they just started breaking over. You just heard stuff popping and cracking, and pine trees started falling down around you everywhere," he explains.

Even though tornadoes leave destruction in their paths, Schmidt says they don't normally produce as much damage as ice does. "Tornadoes don't take out miles and miles of line like ice does," he says. "Ice just takes so much down – not just lines, but arms, and once that starts falling, with all that weight, it just

Ice + power lines + wind = lines that gallop

How the perfect winter conditions of ice and wind can cause power lines to move beyond their limit posing serious danger

When ice storms coat power lines, high winds can lead to lines that bounce and buck around. While rare, this movement is known as galloping lines.

Power lines are designed to sway, but if a wire is weighted down with ice and is pushed around from wind it could move close to a grounded component or an energized conductor and a short will occur.

Galloping lines are a dangerous situation as power lines can touch one another or break and fall to the ground while energized.

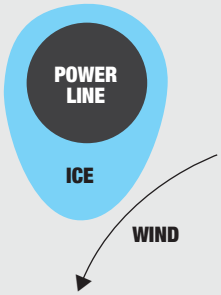
Another safety concern is the ice itself. Ice can form around power lines in a teardrop shape. This shape acts like a wing, causing the line to gain lift and rise with winds. With high winds the ice could break off, causing unsafe conditions on the ground.

The power lines that Hoosier Energy uses to transmit power from 69KV on up are designed to withstand up to 1.25 inches of ice and 60 MPH winds.

If you see power lines moving around forcefully, stay away and call the police or local electric utility.

ICE ON POWER LINES

As ice forms on power lines, gravity pulls them downward, leading to an egg-shaped form. This form, when pushed by winds, can cause movement leading to galloping lines.



keeps going. Ice is the worst."

One of the most unique sights Schmidt ever saw was at a substation in the mid-1980s. He walked up to the fence with his safety glasses on and saw electricity tracking along the ice coating the fence.

Weather Forecasts Prove Valuable to Aid in Developing Response Plan

Richardson says he's learned to watch the radar for incoming weather, especially after a tornado went through Crossville, Ill., a few years ago, and downed 32 poles.

"The weather just really plays havoc a lot, especially wintertime – winter and spring are the worst," he says. "When it gets cold and ice gets on the power lines, the wire can move up and down if it's windy. The ice can break a pole if too much gets on the wire. The poles can't handle the weight."

When the Blizzard of 1978 happened, Substation Foreman Joe Crowe had only been with Hoosier Energy a few years. He had just bought a four-wheel-drive truck when the storm dumped about 20 inches of snow on southern Indiana and Illinois, and winds up to 50 miles per hour pushed snow drifts as high as 25 feet.

"About three of us made it to the Hoosier Energy office – just making it to the office and shoveling out the snow was about all we could do the first couple of days," says Crowe. While the city and county hired big front loaders to dig out a lot of places where it drifted deep, snow at the office drifted as high as the storage and equipment buildings.

"The stuff that really gets us is the ice," Crowe adds. "Ice gets on equipment at the substation, but I haven't seen it mess things up like it does on the power lines."

Crowe explains that the equipment at substations is designed to be out in the weather year-round, so inclement weather doesn't impact it as drastically as power lines. "Some days, it's awful cold, and you can hardly bear it, but you stand it as long as you can, and then warm up for a bit, and get back out there."

It's All About Being Prepared – How Technology Helps Crews Work Safely

"We're pretty much prepared for winter all the time, because we've got to be," says Crowe, explaining that crews prepare their four-wheel-drive trucks for winter by putting in diesel additives and make sure all equipment batteries are sufficient.

Being prepared for any weather circumstance or disaster involves having cutting-edge technology and equipment that facilitate and maintain grid resiliency. Hoosier Energy provides line workers with all-terrain vehicles >>

HE photo

MONITORING THE GRID: Meter Relay Working Foreman Donnie Eslinger helped design a way to detect the location of faults taking place on the grid.

THE DIGITAL FAULT RECORDER

Technology helps isolate, restore power efficiently when response time matters

One of the electric power industry's most important goals is ensuring the integrity of the nation's power grid. Digital fault recorders are one technology used to monitor operations at substations and power plants throughout North America.

The devices continually monitor the flow of electricity in and out of the substations. When they detect abnormalities, such as faults, they record and relay the information so it can be analyzed.

You may be surprised to learn that this critically important equipment is the result of experiments conducted by Hoosier Energy employees at the Merom Generating Station.

Meter Relay Working Foreman Donnie Eslinger was part of the team preparing Merom for operations in the early 1980s. The 44-year Hoosier Energy employee and his co-worker Darrell Goodson experimented with locating the source of faults leading to the creation of the digital fault recorder.

and track machines – digger and bucket trucks on tracks that resemble a tank – to make it easier to travel across hazardous properties to find line breaks.

"We can get in and out to places we should not be able to," says Schmidt.

Drone Equipment Helps Line Crews Work Safely Around Energized Lines

Richardson says that new drone certifications and equipment means he doesn't have to climb a pole to inspect woodpecker holes, which may require replacements.

"You can't really tell how deep they are, so the drone is really nice because the pilot can get right on it and tell me what I need to know," says Richardson.

Chris Ware, Manager of Power Delivery Engineering, says drones can be used to fly into areas that may be difficult to access. "Pilots could deploy a drone and get eyes farther than they can see."

Another useful technology is the geographic information system (GIS) utilized to track assets, easement rights and land rights for facilities, whether that's transmission lines or a warranty deed for property with a substation or generating facility. The GIS works in conjunction with an app to help with spring and fall aerial patrols. The spring patrols help prepare for summer by targeting areas than need vegetation removed.

"Our fall patrols are there to make sure that the vegetation management coordinator can find anything problematic before the winter," Ware says. "They can assess those lines and make sure we don't have any trees that might be hard to get to, especially during winter storms, when snow on the ground makes it harder to get to the site."

Instead of guessing locations and manually writing down information in notebooks while flying over, the coordinator can simply hit a button on the app and make notes about the situation.

"Following the flight, the coordinator is able to go back into the app, pull up all areas he pinpointed, and categorize those to get the right maintenance efforts to clear those prior to wintertime," Ware explains. "This has been a tremendous help and value for the future."

Ware adds that Hoosier Energy uses digital fault recorders that will pinpoint the location of a fault, so if a tree came down on a line or if a span of line had a fault for any reason, the flaw can be identified and isolated to restore load.

"That's a system we've had in place since the 1980s, and we've constantly improved and replaced components on it," he says. "We were advanced by quite a few years from our neighboring utilities that have just started putting that technology to use in the past five years."

Ware says he has been with Hoosier Energy for 21 years, and technology has come a long way in that time.

"Hoosier Energy has and will continue to look at newer technology to enable us to minimize outage duration or to eliminate the causes of outages. It's more and more important as the grid evolves and becomes different than it used to be," Ware says. EL

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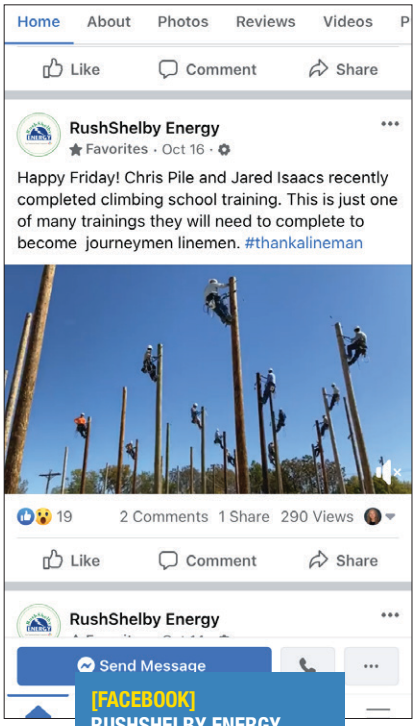
CONTACT US AT:

EnergyLines Editor
Hoosier Energy
2501 South Cooperative Way
Bloomington, IN 47403

Social session

Co-ops took to Facebook to share the cooperative message throughout October. RushShelby Energy congratulated two employees who received training at Hoosier Energy's Franklin Training Center.
Dubois REC helped member-consumers with a simple, yet effective tip to save energy this winter.
Decatur County REMC shared images from its member drive-through event.



[FACEBOOK] RUSHSHELBY ENERGY

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Harrison REMC purchases Chevy Bolt, installs Enel X charger

Harrison REMC is building its electric vehicle (EV) resources to help member-consumers learn about this technology. The Corydon-based co-op has a Chevy Bolt members can schedule to drive. They have also installed an Enel X fast charger in their parking lot. The experience for members includes painted graphics on the ground and printed signage promoting EVs.

ENERGYLINES TO RESUME IN JANUARY

EnergyLines is published 11 times a year with the final issue being the November newsletter.

We will be back in January with co-op, industry and Hoosier Energy news.