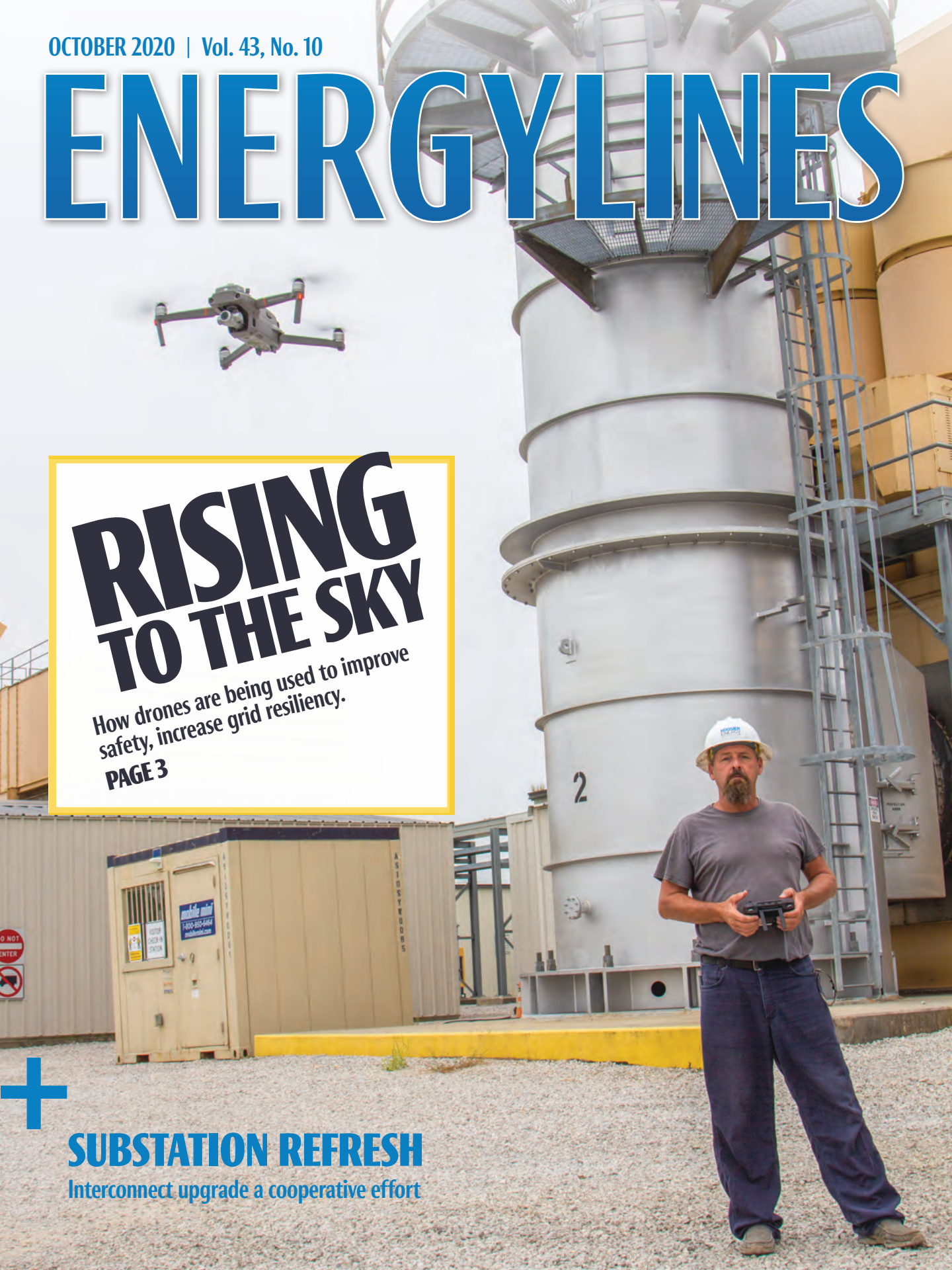
OCTOBER 2020 | Vol. 43, No. 10

ENERGYLINES



RISING TO THE SKY

How drones are being used to improve safety, increase grid resiliency.

PAGE 3

SUBSTATION REFRESH

Interconnect upgrade a cooperative effort

ENERGY OUTLOOK

EIA short-term energy outlook released

The Energy Information Administration (EIA) forecasts 2.4 percent less electricity consumption in the United States in 2020 compared with 2019. EIA expects retail sales of electricity to fall by 6.4 percent this year in the commercial sector and by 6.0 percent in the industrial sector. The EIA states residential sector retail sales will increase by 3.5 percent in 2020. In 2021, EIA estimates that total U.S. electricity consumption will be similar to the 2020 level of consumption.

STATE ENERGY NEWS

IPL settles Petersburg power station pollution dispute

Indianapolis Power and Light (IPL), a unit of AES Corp., will pay $1.5 million in penalties to resolve pollution problems at its four-unit coal-fired generation station in Petersburg, Ind., according to the Indianapolis Business Journal.

The utility and the U.S. Department of Justice announced a settlement agreement. Under the agreement, IPL is required to spend $5 million on non-polluting generation sources at Petersburg. The utility is required to acquire and donate ecologically significant lands that meet a wildlife refuge habitat plan, according to IBJ.

Unrelated to this penalty, IPL has stated that it will retire two of the four units at the plant by 2023.

ON THE COVER

Certified to fly a drone, Line Specialist Shawn Dilk improves his technique at the Worthington Generating Station.

ENERGY INDUSTRY

Distributed energy resource capacity to increase

The distributed energy resource (DER) capacity in the United States will reach 387 gigawatts by 2025, according to a Wood Mackenzie report. The mix of DER is moving away from nonresidential load management.

Distributed energy investments will reach $110.4 billion by 2026. Driving this increase is solar, electric vehicle infrastructure, battery storage and grid-interactive water heaters, according to the report.

11%

GM INVESTS IN ELECTRIC VEHICLES

General Motors will invest 11 percent in Nikola and provide electric batteries and fuel cells for the startup EV company.

GM, Nicola join to develop EVs

General Motors (GM) will help Nikola Corp. develop and build electric vehicles for an 11 percent stake in the company, according to a Wall Street Journal (WSJ) report. Through the partnership, GM will provide electric batteries and fuel cells for use in Nikola vehicles.

The deal provides GM with $2 billion in stock and a seat on Nikola's board. This is part of GMs strategy to monetize its electric-vehicle technology by supplying batteries and components to other companies to generate revenue and drive down costs.

Nikola will benefit from GMs engineering, supply-chain and assembly assets for the rollout of its electric pickup truck, the Badger, according to the WSJ. The Badger will be unveiled in December with production to start in late 2022.

In late September, Nikola founder and Executive Chairman Trevor Milton left the company after allegations surfaced he mislead investors by exaggerating the readiness of Nikola's technology. EL

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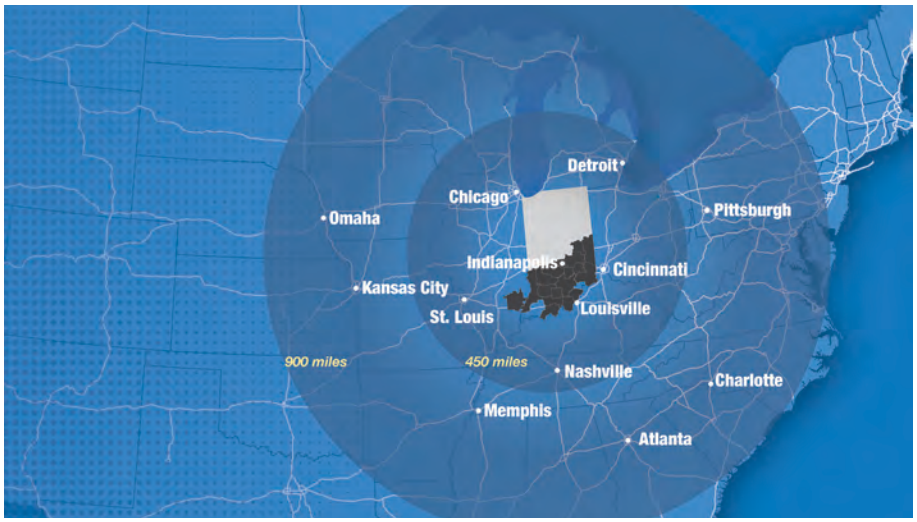
Strategic Priorities

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

ECONOMIC DEVELOPMENT



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Hoosier Energy recognized a top utility for economic development

Efforts to improve member communities noted by Site Selection magazine

Member value.

Economic development efforts by Hoosier Energy are helping drive jobs, investment and load for member communities. Those efforts have been recognized by Site Selection magazine. This recognition was based on multiple factors including the development of data center site qualifications, the Indiana Power Partnership to promote the state and member communities, regional economic development training sessions and work with co-ops with the USDA Rural Loan and Grant program.

"Congratulations to Jeremy Sowders, Christy Langley and Jeff Pipkin for their efforts in helping Hoosier Energy once again be named a top utility in economic development.

Thanks for the efforts of the Key Account Managers for their ongoing hard work with the existing commercial and industrial consumers as well as with prospects. The recognition is truly the result of an entire team effort," said Harold Gutzwiller, Manager of Economic Development and Key Accounts at Hoosier Energy. EL

HOOSIER ENERGY A TOP UTILITY

This year marks the 9th time Hoosier Energy has been named a top utility for economic development by Site Selection magazine.

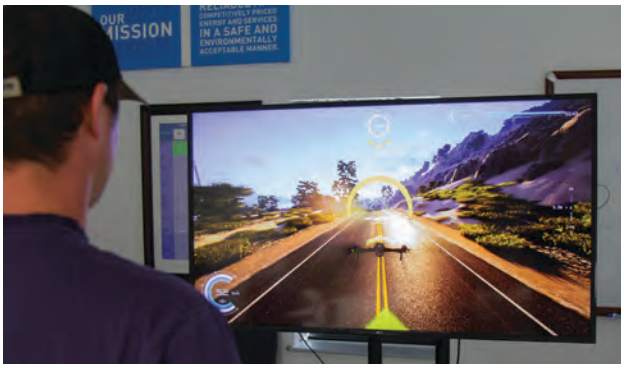
THE FLYOVER

DRONES RISE TO THE SKY TO HELP INCREASE SAFETY, RELIABILITY, RESPONSE TIMES

When you hear it, it is a distinct buzzing sound. It is a little louder than a bee buzzing nearby. If you look up, you might find it – a drone flying overhead. This equipment is no longer just for hobbyists , it has become an intricate tool used by electric utilities to increase safety and grid resiliency. Hoosier Energy is using this equipment for monitoring rights-of-way and powerlines that can transmit up to 345kV of energy. This improves safety, reduces response time and saves money.

Safety is a top priority at Hoosier Energy and having the proper vantage point when working on power lines is important. Drones change that.

"We feel these drones will be able to cut work time significantly because they are removing most of the guess work," said Kriss Miller, Manager Regulatory Compliance. "This equipment also allows our employees to take a closer look at the situation so that the correct tools are selected prior to reaching the site and safety precautions can be addressed."

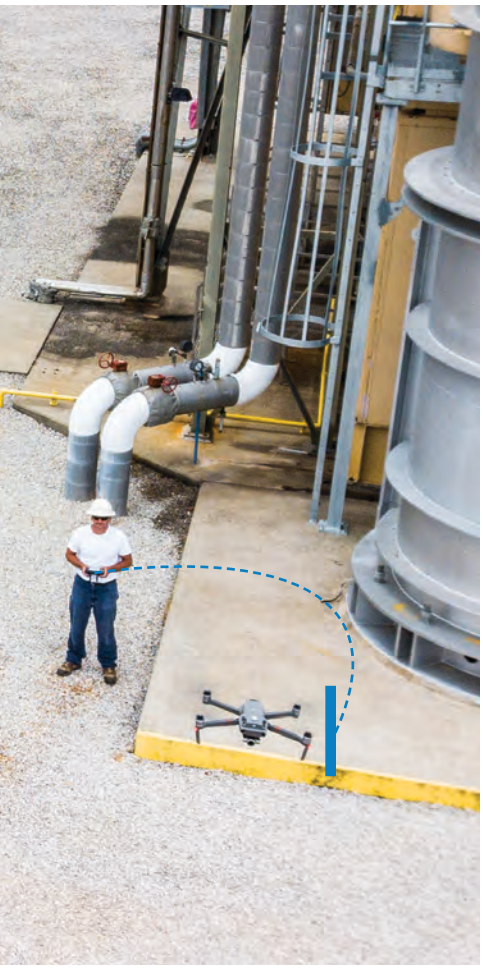


ABOVE: Certified to fly drones are, from left, Line Specialists Shawn Dilk, Greg Dooley, Ethan Hopkins and Line Working Foreman Mick Ruhe.

AT LEFT: Ethan Hopkins and others practice using a drone flight simulator. Hopkins is quick; he holds the class record for the obstacle course.

Crew members operating a drone, standing at a safe distance on the ground, can record work areas using a high-definition camera. Pilots help capture birds-eye views of hazards or equipment damaged by storms.

New Federal Aviation Administration (FAA) guidelines state drone pilots must acquire a Remote Pilot Certificate.



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Coursework includes regulations and operating requirements. Four Hoosier Energy employees took the training program for drone licensing this year.

Line Specialists Shawn Dilk, Greg Dooley and Ethan Hopkins, as well as Mick Ruhe, Line Working Foreman, completed the certificate program offered by Epic Imagery out of Washington, Ind.

The certificate is required anytime an unmanned aircraft is flown in national air space. Certification requires competence in analyzing weather conditions, national air space, aeronautical maps, flight requirements and restrictions.

Certified employees each have a drone and are located at different work centers across the Hoosier Energy service territory. EL

MAINTENANCE PLANNING

THE 1,400-PIECE PUZZLE

Taking a unit offline for preventative maintenance takes a year-long planning process at the Merom Generating Station

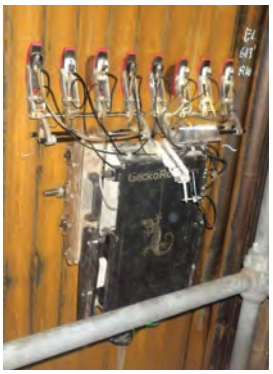
Just like a car that requires maintenance to operate reliably, the Merom Generating Station gets preventative maintenance during scheduled outages. Often occurring in the spring when energy demand is low, generation on a single unit is halted. Boiler tubes and duct work are inspected and repaired — along with about 1,400 other tasks that must be completed in a meticulously calculated order.

The outage planning process takes a full year to arrange all the projects in such a way that tasks are performed at the right time. Chad Cornelius, Manager of Engineering and Performance at Merom Generating Station, explains that the process is much like maintaining a car. A mechanic wouldn't change the oil and then take the engine apart.

"That's why it takes a year, because we look at every one of those 1,400 items," says Cornelius. "Our number one priority is employee safety. We review work that will improve plant operations and employee safety. Environmental compliance and changes for state inspections would be other reasons to move forward with repairs."

Depending on the size of an outage, parts could cost up to $10 million, so exceptional care is taken to make sure that crews are putting all those pieces together in the right order. "It takes the collective effort of maintenance, engineering and the operations group to coordinate all those," Cornelius adds.

PLANNING, continues on Page 5



GECKO REVIEW: This robotic 'Gecko' identifies areas within the boiler that need repairs. This device allows for safe access to hard-to-reach areas inside the boiler.

SCOPE OF WORK CAN INCLUDE

Work on outages includes turbine rebuilds and overhauls, SCR catalyst change outs and cleaning, boiler tube inspection, replacement and repair, FGD cleaning and inspections, air heater and condenser cleaning, fan inspection and repairs, duct work inspection, repair and cleaning.

CO-OP MONTH

Then. Now. Always. Co-ops are proud to power the lives of member-consumers

October is recognized by many Hoosiers as one of their favorite months of the year with often-splendid weather and bright fall colors.

October is also when cooperatives are recognized for the qualities that make the business model unique: local democratic control, commitment to supporting the communities they serve and improving quality of life, special benefits and services, and profits are shared with members over time.

Co-ops create jobs and sustainable businesses around the globe. This is a time to celebrate the co-op legacy of innovation and remind others that putting people first makes the business model exceptional.

Cooperatives are special. Electric co-ops not only provide reliable, affordable, and safe electricity, but also take it a step further with responsibility to support members, enrich communities, and enhance the rural lifestyle.

Every day, more than 29,000 cooperatives provide essential products and services to American consumers, touching lives in many ways.

Tomorrow at breakfast, check your morning news feed. Many of the articles may be labeled "Associated Press" or "AP." Those stories were written by individual reporters but distributed by a cooperative news organization.

If your breakfast includes freshly squeezed orange juice, it may be from a Sunkist product. Sunkist Growers Inc. is a citrus growers cooperative.

Co-ops differ from typical businesses in one big way: they are organized for the benefit of their members, not single owners or stockholders. This difference is what is celebrated during Co-op Month. EL

PLANNING,
Continued from page 4

Those factors, as well as a decrease in runtime and the COVID-19 pandemic, were instrumental in a decision to cancel maintenance outages for 2020, according to Tony Weitekamp, Maintenance Manager at the plant.

Weitekamp gives accolades to the plant employees who spend a year putting together the outage plan. "You've got guys maintaining and operating the plant, and also planning and coordinating the outage, and that's one of the most positive things I've seen."

With the outage cancellations, the workforce has returned to normally scheduled work to maintain reliability, which means staying current with preventative maintenance work orders and utilizing economic reserve downtimes to fix issues normally addressed during an outage, such as oil and filter changes.

"You've got guys maintaining and operating the plant, and also planning and coordinating the outage, and that's one of the most positive things I've seen."

TONY WEITEKAMP,
Maintenance Manager

Without the repairs that normally take place during an outage, there is an increased urgency with predictive maintenance. "We have the ability to look at vibration, temperatures or just different gauges and detect if something's out of line. We're addressing that sooner than we normally would," Cornelius says.

One of the bigger maintenance jobs during an outage is to perform an air heater wash, because the air heaters can get plugged up. "We'll tackle that during this economic reserve time period," says Weitekamp, adding that he has access to the equipment needed in-house so cost is minimal. "It's no different than if you didn't change your furnace filter. You're not going to get the performance out of your air conditioner at home."

For 2021, a maintenance outage is scheduled on unit two, which equates to the normal two years of preventative maintenance, and a summer prep outage on unit one, which is one year of preventative maintenance. "This scope won't double as far as scale on unit two, but unit one will undergo two years' worth of maintenance," says Weitekamp.

By early November, Weitekamp expects the winter preparation maintenance to be complete. That includes such jobs as heat trace checks on piping, covering louvers on buildings to keep the cold air out and making sure portable heaters work well. EL

ENERGYLINES

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SUBSTATION UPGRADES: The Fairview primary substation has had improvements made including connecting a microwave tower to a power source from Southeastern Indiana REMC.

Substation updates improve resiliency

CREWS UPDATE SUBSTATION IN SOUTHEASTERN INDIANA REMC TERRITORY

On the outskirts of Vevay, Ind., one of Hoosier Energy's primary substations has had substantial improvements made. The focus of this four-month project was to connect an alternate AC source for a nearby microwave tower. Power is being supplied by Southeastern Indiana REMC.

Substation foreman Trevor Asche, who supervised the project, said one of the biggest upgrades was to connect a microwave tower feeding off the transformer to service from Southeastern Indiana REMC. The tower enables communication between Hoosier Energy system control, headquarters and substation equipment.

"If we took that substation offline, we had no alternative energy source," Asche explained. "We had to run a generator all the time, so this setup is a lot better. This powers the microwave tower, and if we have that substation down, we have an alternative feed from the REMC."

The Fairview primary substation steps down the incoming transmission of 138 kV from Duke Energy and distributes to two outgoing 69 kV circuits, which feed a few smaller distribution substations.

"This was a complete rebuild of the whole substation, except for the existing transformer. That's the only thing we did not change," said Asche, adding that the upgrades increase grid resiliency.

Crews from the substation and communications, lineworkers and engineers worked on the project, which included upgrading the electro-mechanical relays, putting new relays in the control building, running all new control wire to equipment in the yard, as well as reconducting the aluminum-conductor steel-reinforced (ACSR) cables that feed off the breakers.

Asche added that they installed four new gas circuit breakers, which replaced the original breakers when the substation was built in the early 1980s.

"These improvements should last a long time," Asche says. "These are the best of the best breakers – SF6 gas breakers – and newer Schweitzer controls."

Because of COVID-19 restrictions that included two-week rotating schedules, the updates took longer to complete. EL

Blue skies contrast fields of golden soybean

As cooler temperatures mark the begining of fall, so does the color change of crops across Indiana. This soybean field has turned a brilliant yellow as power lines cut across the landscape near the Hoosier Energy primary substation near Napoleon.