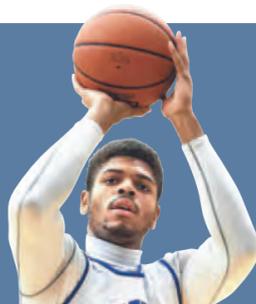


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SUNDAY, JUNE 14, 2015 | CITY EDITION
AN ISSUE OF THE INDIANAPOLIS STAR

Problems pile up at Edwardsport

Power plant bedeviled by repairs; technical setbacks could cost customers

John Russell
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For a brand-new, \$3.5 billion construction project, Duke Energy's Edwardsport power plant already is showing a lot of bumps and scrapes.

Cracking welds. Eroding pipes. Frozen transmitters. Slag building up. Coal slurry spilling on floors.

And all that was just in December.

The plant, heralded by Duke Energy

COSTLY POWER PLANT

The Edwardsport plant cost \$3.5 billion, nearly twice the original estimate of \$1.985 billion.

as a technological marvel and a producer of reliable, low-cost energy, has faced a string of construction, operating and maintenance setbacks.

Now, a good chunk of the repair costs could be passed along to Duke Energy's 790,000 customers in Indiana, who al-

ready are on the hook for much of the plant's construction costs.

The December glitches took the plant offline repeatedly and squeezed its generating output to about 23 percent of capacity that month, Duke Energy said in a recent filing with the Indiana Utility Regulatory Commission.

Over the 23 months the plant has been in service, it has generated electricity at

» See EDWARDSPORT, Page 10A



CHARLIE NYE/THE STAR 2013 FILE PHOTO
Duke Energy's coal-gasification plant in Edwardsport went online in June 2013.

Turn a vacant warehouse into community and exhibit space



GARFIELD PARK IS BIG CAR'S NEXT

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THE STAR

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IN TODAY'S STAR

50 KID THINGS

Reconnect with the magic of fireflies, water games, fireworks and much more. **Living, 1E**



PRIDE IN INDY

Thousands watched the parade, listened to music and visited the Pride fest grounds. **23A**

USA TODAY

Go inside NORAD's bunker in a Colorado mountain, the USA's most secure intelligence site. **1B**

Open a record store and radio station to boost struggling corridor

Wei-Huan Chen and Will Higgins | wei-huan.chen@indystar.com

The Garfield Park house is one of the city's more forlorn. The windows are boarded up. The front door is busted open. Trash from squatters is strewn about.

In many ways it's another empty property plaguing this post-industrial area down on its luck since the interstate plowed through the Southside neighborhood in the 1970s.

It's also a perfect place for the big idea to begin. Oh, it's big but not unfathomable. And

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View a video detailing the Big Car Collaborative's plans for Garfield Park area.

Jim Walker, Big Car founder, at "The Tube" community art space.

it works like this: Use local artists, and their art, to transform and revitalize an urban neighborhood.

Big Car is behind the big idea. The nonprofit art collaborative plans to buy the house at 1230 Cruft St. and rehab it into not just an affordable home but also a studio it intends to co-own with artists.

But that's just a slice of the effort to breathe new life into Garfield Park. If all

» See BIG CAR, Page 3A

Convert area abandoned homes into affordable housing for artists

Business	1-2D
Classifieds	3-8D
Deaths	26-27A
Editorials	17A
Living	1-6E
Lottery	2A
Metro	23-25A
MLB	9C
Puzzles	5E, 6U
Scorecard	8C

TODAY'S WEATHER

LOW: 72 HIGH: 89

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Details, 28A

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Edwardsport

Continued from 1A

an average of only 41 percent of capacity. That's about half the generation level that the company presented to state regulators from model runs and studies when the plant was still on the drawing board.

The company, however, notes that production has steadily improved in recent months, rising to 75 percent in March. It says some of the maintenance issues — such as corroded pipes — are common in new plants.

A center of much controversy

Still, the project is one of the most expensive in Indiana history. It has been the center of much controversy, repeated government hearings and ethical issues.

Some critics say Duke Energy put that plant in service prematurely, before the plant was truly ready to run, as a way to get around a settlement agreement limiting how much the company could charge ratepayers.

That would allow Duke Energy to recover repair costs from electricity customers, despite a settlement the company reached with state regulators in 2012.

The settlement capped the amount of money Duke Energy could recover from ratepayers at about \$2.595 billion, plus millions of dollars in financing costs. The company agreed to swallow about \$900 million in construction costs.

Customers are already seeing higher bills to pay for the plant's construction and financing — about a 14 percent to 16 percent increase. Most of that has already been tacked onto monthly bills, but part of it is still being phased in.

But that settlement only capped construction costs until Duke puts the plant into service. After that, repair costs could be considered "operation and maintenance" rather than "construction" costs.

Now, ratepayers could be pressed to pay for some of the expensive repairs, although Duke Energy says who will pay for them will be determined on a case-by-case basis.

And the company hinted in its recent filing with state regulators that repairs will be ongoing and perhaps costly.

"Managing erosion and corrosion will be a constant maintenance challenge for the plant," Plant manager Jack Stultz testified in the June 4 filing.

That is raising the ire of some consumer advocates, who say they warned for years that the technology was risky and expensive but were ignored.

They say Duke Energy was premature in putting the plant in service in June 2013.

For months, they have been trying to stop the company from passing along tens of millions of dollars in extra costs to customers through higher rates to cover operations for the period from April 2013 to March 2014.

The average residential customer would expect to see electricity bills climb by about \$2.40 a month if state regulators approve the company's petition.

Consumer advocates say Duke Energy should swallow those costs.

State regulators have yet to rule on who should have to pay those costs.

The plant's bumpy ride

The massive power plant has had a bumpy ride almost from the start. Just six days after opening in 2013 — and one day after reporters were given a tour of the site — the plant broke down. Duke Energy said huge fans that help vaporize wastewater at the plant were damaged. Without them, the company couldn't operate the plant's two gasifiers. The plant remained offline for nearly a month.

A review of Duke Energy's regulatory filings revealed a long list of problems that have been encountered at the plant since the beginning of 2013, including cracked pipes, broken drive shafts, and failed pumps.

Duke officials say such interruptions are to be expected with a new, complicated plant.

Opponents of the plant say the problems are proof that Duke Energy declared the project "in-service" prematurely. Doing so would allow the company to recover repair costs from electricity customers, despite a settlement the company reached with state regulators in December.

The settlement capped the amount of money Duke Energy could recover from ratepayers at about \$2.6 billion, plus millions more in financing costs. The \$3.5 billion plant was originally estimated to cost less than \$2 billion.

The plant has played a central role in an ethics scandal involving cozy relationships between state regulators and Duke Energy officials. That scandal toppled the then-chairman of the Indiana Utility Regulatory Commission and cost three high-ranking Duke officials their

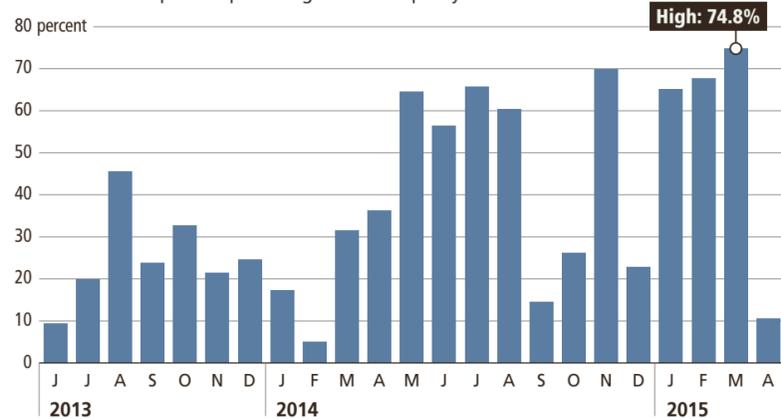


CHARLIE NYE/THE STAR 2013 FILE PHOTO

This is the control room in Duke Energy's Edwardsport power plant. The plant's low output, an average of 41 percent since it went online, is a point of controversy. Duke Energy said, the plant is performing respectably as it's been available to produce energy about 69 percent of the time.

EDWARDSPORT PLANT'S WILD RIDE

The generating output at Duke Energy's Edwardsport power plant has fluxuated wildly in the 23 months since the facility went online. Here's a month-by-month breakdown of output as a percentage of total capacity.



SOURCE: Duke Energy filings, Indiana Utility Regulatory Commission

STEPHEN J. BEARD / THE STAR

POWER PLANT AT A GLANCE

Location: Knox County, southwest Indiana.

Owner: Duke Energy Inc., the nation's largest electric utility. The company, based in Charlotte, N.C., provides electricity to about 790,000 customers in Indiana.

Opened: June 2013.

Features: The 618-megawatt plant converts coal to synthetic natural gas and uses it to create electricity. It's the largest plant of its kind in the world. Duke has said the plant will emit less sulfur dioxide, nitrogen oxide and mercury than the plant it replaced, while providing more than 10 times the power of the former plant. Critics have pointed out the plant will still release about 4 million tons of carbon dioxide a year into the air.

jobs.

And Duke Energy is continuing to ask ratepayers to help pay for operating costs. The company recently asked regulators for permission to pass along millions more in costs for 12 months ending this March.

The Indiana Office of Consumer Counselor, which opposed much of the costs for the first year the utility put the plant in service, said it is closely studying Duke Energy's request to see whether the latest round of costs to consumers is justified.

The office, which represents the interests of utility consumers, has until September to complete its review.

"We remain very concerned about the plant's performance and its costs, and continue to closely review Duke Energy's ongoing filings with the commission," the utility consumer office said in a statement.

Plant cost more, produces less

Duke Energy originally estimated that the plant would cost \$1.9 billion to build. But the total price tag has since soared more than \$1 billion higher because of wildly wrong estimates on the amount of steel, piping and concrete needed to construct the facility, along with labor issues and a costly, unforeseen water-disposal system.

Company officials acknowledge that the plant has had technical problems. But they say the plant has generated more than 2 million megawatt hours of electricity since going online. And in the first three months of this year, the plant rang up the highest quarter of output

ever.

The plant produced at 65 percent of capacity in January, at 68 percent in February and at 75 percent in March.

"We're showing steady improvement — the kind of improvement we're looking for," said Doug Esamann, president of Duke Energy's Midwest and Florida regions.

In April, the plant was largely out of service for regular spring maintenance, the company said. It generated only 10.6 percent of capacity.

But a series of setbacks at the plant in December is raising eyebrows among some engineers and consumer advocates.

One day, a hole eroded in a pipe, spilling a slurry of pulverized coal and water onto the floor. Workers patched the hole by welding a plate over it as a temporary repair. Later, they replaced the pipe.

Another day, a welded connection on a pipe cracked and broke away. More slurry spilled onto the floor.

Still later in the month, one of the plant's two gasifier units had to be shut down because of a frozen transmitter.

The technical problems continued to crop up in following months.

In February, a piece of tubing in the air separation unit was found to be leaking. The repair and restart required days of work. In March, a similar leak caused six days of downtime.

Also in February, the liquid oxygen pumps in the air separation unit began smoldering, requiring workers to call in the contractor to replace the bearings.

There were other issues: slag build-ups in valves, a crank shaft failure in a pump and control system errors.

'Risks coming home to roost'

David Schlissel, who has engineering degrees from the Massachusetts Institute of Technology and Stanford University, said he has warned for years that the technology at Edwardsport was unproven and carried serious risks.

"Now those very risks are coming home to roost," said Schlissel, who frequently is called as an expert witness in electric utility cases, including on behalf of consumer advocates in the Edwardsport case.

"That's why (Duke Energy) ratepayers are feeling the pain that they're feeling now and will continue to feel for the foreseeable future."

Duke Energy built the plant to modernize its fleet of aging coal-fired plants in Indiana.

The utility, based in Charlotte, N.C., said the plant was sorely needed to keep up with growing energy needs.

It touted the plant as the largest in the world to use advanced technology to "gasify" coal, strip out many of the pollutants and then burn that cleaner gas to produce power.

Opponents said the technology was experimental, unproven and not very clean. They said the plant would fill the air with millions of tons of greenhouse gases a year by burning dirty Indiana coal, when the utility should be focusing on cleaner, renewable energy.

They added that the technology was far from proven on this scale. Some called it a "science project."

The plant has fallen short of some promises, such as generating low-cost electricity or severely cutting carbon dioxide emissions.

"Ratepayers are being mandated to pay for a lemon that has not delivered on any of its promises," said Kerwin Olson, executive director of Citizens Action Coalition of Indiana.

Tim Stewart, a lawyer for Lewis Kappes in Indianapolis, which represents the utility interests of large industrial companies around the state, said Duke Energy put the plant in service prematurely and was not ready for its intended use.

"While we hope Edwardsport will see further improvement in its performance, we continue to monitor the situation and will intervene as needed to protect our clients' interests," he said.

But Duke Energy said some of those issues are common at power plants.

"Corrosion on tubes? That happens at every one of our plants," Esamann said. "It's just the corrosive nature of the process."

But he acknowledged that the stream of technical glitches in December was higher than normal. "We would deal with them as they occurred and bring the plant back up," he said.

The plant's low output, an average of 41 percent since the plant went online, is a point of controversy.

'We're constantly improving'

Duke Energy says that figure, known as "capacity factor" is not the best measure of performance. A better measure, it says, is "availability factor," or the percentage of time the plant is available to deliver electricity, even though it might not always do so, due to factors beyond its control, such as market conditions or orders to cut back.

On that scale, Duke Energy said, the plant is performing respectably. The plant was available to produce energy about 69 percent of the time in its 22 months online.

For the first three months of this year before April's planned outage, the plant had an equivalent availability factor of about 82 percent.

"My view of it is we're constantly improving," Esamann said. "We're seeing better operational results."

But critics say the company is putting too happy a face on an uneven situation. "The reality is that the plant has not performed as promised," Olson said. "It's a boondoggle."

★ Call Star reporter John Russell at (317) 444-6283. Follow him on Twitter: @johnrussell99.



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