STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

PETITION OF DUKE ENERGY INDIANA, LLC PURSUANT TO IND. CODE §§ 8-1-2-42.7 AND 8-1-2-61, FOR (1) AUTHORITY TO MODIFY ITS RATES AND CHARGES FOR ELECTRIC UTILITY SERVICE THROUGH A STEP-IN OF NEW RATES AND CHARGES USING A FORECASTED TEST PERIOD; (2) APPROVAL OF NEW SCHEDULES OF RATES AND CHARGES, GENERAL RULES AND REGULATIONS, AND RIDERS; (3) APPROVAL OF A FEDERAL MANDATE CERTIFICATE UNDER IND. CODE § 8-1-8.4-1; (4) APPROVAL OF REVISED ELECTRIC DEPRECIATION RATES APPLICABLE TO ITS ELECTRIC PLANT IN SERVICE; (5) APPROVAL OF NECESSARY AND APPROPRIATE ACCOUNTING DEFERRAL RELIEF; AND (6) APPROVAL OF A REVENUE DECOUPLING MECHANISM FOR CERTAIN CUSTOMER CLASSES.	)	**CAUSE NO. 45253**

SIERRA CLUB'S POST-HEARING BRIEF

PUBLIC VERSION

Duke Energy Indiana's experiment in operating a coal gasification power plant is a failure. As shown by Duke's own data and reams of intervenors' testimony, every day that Edwardsport operates on coal-converted syngas, it loses vast sums of customers' money. The plant's negative energy market margins are digging into an already deep hole: the plant's fixed and recurring capital costs are also unreasonably high compared to alternatives. The only prudent choice for Duke's customers—who face a large proposed rate increase in this case—is to cease coal gasification operations at Edwardsport, thereby saving millions of dollars. Duke has offered no empirical evidence to contradict this conclusion, and cannot justify its plan to continue operating Edwardsport as a syngas facility. The Commission should therefore deny all the operations and maintenance ("O&M") and recurring capital expense associated with

gasification and coal handling systems at Edwardsport. If the Commission determines to approve the remaining non-coal Edwardsport O&M and capital maintenance costs (i.e., the ongoing costs to run the plant on gas only), it should do so while also establishing an annual tracker proceeding to allow for oversight of Duke's operation of the plant.

In addition, Duke has failed to justify the prudence of its request to increase its base cost of fuel. A significant portion of this increase ($103 million per year) is attributable to coal intended for Edwardsport. Because Duke failed to justify the plant's ongoing operation on syngas, the Commission should not allow recovery of any Edwardsport coal costs in base rates. More broadly, Duke has long had a coal oversupply problem, attributable to systematically erroneous burn forecasts and long-term coal supply contracts. As recently as December 2019 Duke had to revise its burn forecast for 2020 downward by 10%; and, over the course of 2019, the Company was forced to defer delivery to 2020 of 2 million tons of coal that were scheduled to be delivered that year. Duke's responses to the coal oversupply problem have exacerbated it, making imprudent spot coal purchases, maintaining unrealistic forecasts, and violating its own internal risk guidelines for forward hedging positions. The Commission should therefore disallow an increase in the base cost of fuel, maintain oversight of Duke's purchasing decisions through the quarterly fuel adjustment proceedings, and order Duke to submit future large-scale coal contracts for prudence review to avoid compounding the problem further.

Last, Duke's heavy reliance on self-scheduling its Cayuga and Gibson units has harmed customers. If the Commission includes Cayuga and Gibson O&M, capital maintenance, and fuel costs in base rates, it should do so only subject to the condition of establishing an annual tracker docket to ensure that Duke is prudently operating these economically marginal units.

In sum, Sierra Club respectfully offers these recommendations to the Commission:

1) Remove all syngas/coal-related O&M and capital maintenance expenses at Edwardsport from the test year revenue requirement;
2) Condition inclusion in the test year revenue requirement of the ongoing costs (O&M, recurring capital) to run Edwardsport on natural gas on the establishment of a tracker proceeding to oversee Duke's continued operation of the facility;
3) Deny Duke's requested increase in the base cost of fuel;
4) Establish a process for Duke to seek a prudence determination for large-scale coal supply contracts; and
5) Establish a proceeding to assess the operational decisions at Cayuga and Gibson.

I. The Commission Must Undertake Searching Review of Duke's Ongoing Operations So As To Prevent Imprudence from Becoming Enshrined in Customers' Rates.

In Indiana, the Commission is both authorized and obligated to "examine every aspect of the utility's operations and the economic environment in which the utility functions to ensure" the necessity, prudence, and future usefulness of the utility's infrastructure, operations, and any costs incurred.[1] Under Indiana Code § 8-1-2-48, the Commission must:

> inquire into the management of the business of all public utilities . . . If, in its inquiry into the management of any public utility, the commission finds that the amount paid for the services … is excessive, … or that any other item of expense is being incurred by the utility which is either unnecessary or excessive, the commission shall designate such item or items, and such item or items so designated, or such parts thereof as the commission may deem unnecessary or excessive, shall not be taken into consideration in determining and fixing the rates which such utility is permitted to charge for the service which it renders.

Id. (emphasis added).

Such disallowances are not optional; it is the duty of the Commission to protect ratepayers from waste in utilities' operation. In particular, before authorizing a new rate the Commission must evaluate more than those affirmative operational changes offered by Duke. The Commission must also interrogate the Company's choice to maintain its existing operations where there is evidence that continuing the status quo will lead to unnecessary and excessive rates.[2] Here, for example, the Commission must consider whether Duke's failure to objectively

[1] *L.S. Ayres & Co. v. Indianapolis Power & Light Co.*, 169 Ind. App. 652, 661, 351 N.E.2d 814, 821 (Ind. Ct. App. 1976); *see also NIPSCO Indus. Grp. v. N. Ind. Pub. Serv. Co.*, 100 N.E.3d 234, 238 (Ind. 2018) (quoting *U.S. Gypsum, Inc. v. Ind. Gas Co.*, 735 N.E.2d 790, 798 (Ind. 2000)).

[2] *See, e.g.*, Ind. Code § 8-1-2-48. Other utility commissions have disallowed costs associated with the continued investment in uneconomic generation—most notably the continued investment in nuclear plants, which is similar to Duke's continued syngas-based Edwardsport's investments. It is well settled that a utility's obligation to analyze the prudence of an investment is not a static or once-and-done responsibility. Instead, the utility has an ongoing obligation to its ratepayers to evaluate the *continuation* of an investment as well as its decision to enter into and *remain* in that particular investment. *See, e.g., Appl. of El Paso Elec. Co. for Authority to*

evaluate an accelerated retirement of Edwardsport or the possibility of retiring the gasifiers and running the plant on natural gas—that is, the utility's choice to project its past choices into the future—will lead to unnecessary and excessive costs that are imprudently incurred.[3]

Ultimately, the purpose of such inquiry is to ensure that the touchstone in setting rates is met—that is, all rates must be just and reasonable.[4] Such prudence review is regulation's substitute for competition's consequences. "If a competitive enterprise tried to impose on its customers costs from imprudent actions, the customers could take their business to a more efficient provider. A utility's ratepayers have no such choice."[5] Within its assigned territory, each Indiana utility has a legal monopoly over retail electric service.[6] Absent regulatory standards—along with consequences for not meeting those standards—a utility protected from competition lacks incentive to perform as if subject to competition:

> Managements of unregulated business subject to the free interplay of competitive forces have no alternative to efficiency. If they are to remain competitive, they

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Change Rates, Docket No. 5700, 10 P.U.C. BULL 1071, 1984 WL 274081, at *27 (Tex. Pub. Util. Comm'n Oct. 26, 1984, on modification Dec. 7, 1984). This requires the utility to respond prudently to changing circumstances or new economic or regulatory challenges that arise as a project progresses. Applying this rule, several public utility commissions have disallowed costs associated with a utility's continued investment in uneconomic generation. *See, e.g., Gulf States v. Pub. Serv. Comm'n*, 578 So.2d 71 (1991) (affirming the Louisiana Public Service Commission's disallowance of costs associated with the continued investment in risky nuclear generation where, as here, the utility failed to adequately evaluate viable and economically beneficial alternatives and was aware of, but failed to take into account, the "adverse cost trends" and "dramatically increased" financial risks involved with the construction and operation of the plant).

[3] *See* Ind. Code § 8-1-2-48.

[4] Ind. Code § 8-1-2-4; *see also id.* § 8-1-2-68 (invests the Commission with the authority to establish new "just and reasonable rates" and charges when it finds that a utility's existing rates are unjust, unreasonable, insufficient, unjustly discriminatory or otherwise unlawful).

[5] *See, e.g., Long Island Lighting Co.*, Case No. 27563, 71 P.U.R.4th 262 (N.Y. Pub. Serv. Comm'n Nov. 16, 1985).

[6] *Citizens Action Coal. of Ind., Inc. v. N. Ind. Pub. Serv. Co.*, 485 N.E.2d 610, 614 (Ind. 1985).

> must constantly be on the lookout for cost economies and cost savings. Public utility management, on the other hand, does not have quite the same incentive.[7]

A utility's motivation to act prudently arises instead from the prospect that the Commission will disallow imprudent costs.[8] Duke and other Indiana utilities are "regulated in order to protect the consumers from the abuses of monopoly, i.e., artificially high prices."[9] "The statutes which govern the regulation of utilities and which grant the [Commission] its authority and power provide a surrogate for competition."[10] This authority and power, rather than the existence of alternatives, provides the necessary protection for consumers.

A rate proceeding is where the Commission decides whether captive customers can reasonably be asked to pay for a utility's choices. "While the utility may incur any amount of operating expense it chooses, the Commission is invested with broad discretion to disallow for rate-making purposes any excessive or imprudent expenditures."[11] Accordingly, the core of a

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[7] *Midwestern Gas Transmission Co. v. E. Tenn. Nat. Gas Co.*, 36 FPC 61, 70, 64 P.U.R.3d 433 (1966), *aff'd sub nom. Midwestern Gas Transmission Co. v. FPC*, 388 F.2d 444 (7th Cir. 1968).

[8] *See, e.g.*, *Foltz v. City of Indianapolis*, 234 Ind. 656, 668, 130 N.E.2d 650, 656 (1955) (outlining generally the history of regulation of businesses with a "public calling" and noting that the "common law from time immemorial has granted relief from extortionate practices by a business classified as public calling or 'affected with a public interest.'"); *Pub. Serv. Comm'n v. City of Indianapolis*, 235 Ind. 70, 96, 131 N.E.2d 308, 318 (1956) ("rates may not be so high as to injure the consumer by charging an exorbitant price for service and at the same time giving the utility owner an unreasonable or excessive profit."); *Gulf States Utils. Co. v. La. Pub. Serv. Comm'n*, 578 So.2d 71, 85 (La. 1991); *Cambridge Elec. Light Co.*, D.P.U. 87-2A-1, 86 P.U.R.4th 574, 583 (Mass. Dep't of Pub. Utils. Sept. 3, 1987) (asking whether the utility used "a reasonable decision-making process to arrive at a course of action and, given the facts as they were or should have been known at the time, responded in a reasonable manner"); *U.S. Gypsum, Inc.*, 735 N.E.2d at 797 ("As a quid pro quo for being granted a monopoly … the utility is subject to regulation by the state to ensure that it is prudently investing its revenues in order to provide the best and most efficient service possible to the consumer.").

[9] *Citizens Action Coal. of Ind., Inc.*, 485 N.E.2d at 614.

[10] *Id*. *See also N. Ind. Pub. Serv. Co. v. Citizens Action Coal. of Ind., Inc.*, 548 N.E.2d 153, 159-60 (Ind. 1989).

[11] *Ind. Office of Util. Consumer Counselor v. Ind. Mich. Power Co.*, 7 N.E.3d 1025 (Ind. Ct. App. 2014); *see also City of Evansville v. S. Ind. Gas & Elec. Co.*, 167 Ind. App. 472, 479, 339 N.E.2d 562, 569 (1975); *Office of Util. Consumer Counselor v. Ind. Cities Water Corp.*, 440

rate proceeding is prudence analysis, which determines which of a utility's expenses can and should be paid by captive consumers. Prudence analysis tests whether a utility has behaved reasonably, based on industry norms, using all professional tools objectively and competently. Prudence requires "[c]arefulness, precaution, attentiveness, and good judgment . . ."[12] Customers must not, under Indiana law, foot the bill for a utility's unreasonable costs, including the costs for a power plant that cannot survive the rigors of market competition.

II. The Commission Should Exclude From the Revenue Requirement All Edwardsport Coal-Related O&M and Capital Maintenance Costs.

The Commission should exclude from the revenue requirement all of the O&M expenses and recurring capital costs at Edwardsport associated with syngas operations because the record evidence shows they are excessive and unreasonable.[13] While Duke chose not to study the ongoing economics of Edwardsport in its 2018 IRP or in testimony provided in this Cause, all of the empirical data available shows that Edwardsport operating on coal provides no benefit to Duke's customers. When Edwardsport operates on coal, the plant incurs significant operational losses—the plant's short-run variable costs for energy are far in excess of the revenues it earns in the MISO energy market. These negative energy margins are in addition to the fixed and capital costs at Edwardsport, which are unreasonably high—ten times higher than comparable gas-fired plants.

The most crucial issue presented by this rate case is the fate of Edwardsport. Until now, Duke had recovered Edwardsport costs through rider proceedings, giving the Commission (and

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N.E.2d 14, 15 (Ind. Ct. App. 1982), *trans. denied*; *L.S. Ayres & Co.*, 169 Ind. App. at 657; *Citizens Energy Coal., Inc. v. Ind. & Mich. Elec. Co.*, 396 N.E.2d 441, 445 (Ind. Ct. App. 1979).

[12] *See* Black's Law Dictionary at p. 1226 (6th ed. 1990).

[13] *See, e.g.*, Ind. Code § 8-1-2-48; *see also Ind. Office of Util. Consumer Counselor*, 7 N.E.3d 1025; *see also City of Evansville*, 167 Ind. App. at 479; *Office of Util. Consumer Counselor*, 440 N.E.2d at 15, *trans. denied*; *L.S. Ayres & Co.*, 169 Ind. App. at 657; *Citizens Energy Coal.*, 396 N.E.2d at 445.

stakeholders) regular opportunities for oversight and input. But now, Duke seeks to include Edwardsport costs in its base rates. This is an important shift, as Duke is proposing to move a controversial and oft-scrutinized project into the company's base rates, which would, if approved as filed by Duke, avoid further oversight unless and until Duke files another rate case. Rather than allow Duke to treat Edwardsport as "business as usual" going forward, the Commission should acknowledge that Duke's IGCC experiment has failed, and disallow further imprudent expenditures to maintain a facility and fuel choice that has proven unreasonably expensive to customers.

The Company is requesting $300 million in expenses for this plant in 2020 alone.[14] As demonstrated below, there is no economic justification for continuing to operate Edwardsport on coal/syngas, yet Duke's 2018 IRP does not consider its conversion to gas-only operations (through retirement or storage of the gasifiers) or its retirement before 2045—twenty-five years from now.[15] Duke has the burden of demonstrating that its requested levels of O&M and ongoing capital spending at Edwardsport are reasonable and necessary.[16] Because Duke failed to meet that burden, the Commission should remove the imprudent Edwardsport costs from the Company's revenue requirement.

A. Edwardsport is a boondoggle that has been plagued with issues since before it began operation, and the forecasts relied on to support its construction have proved wrong.

Edwardsport is deserving of not just scrutiny but deep skepticism, as the fundamental case for its existence has been undermined since its construction for at least two reasons. First,

[14] This includes $146 million in O&M, $103 million in fuel costs, and $51 million in capital costs. Direct Testimony of Tyler Comings on Behalf of Sierra Club at p. 7 (Oct. 30, 2019) ("Comings Direct").
[15] Comings Direct at p. 4.
[16] *See* Section I, above.

the electric-market assumptions used to justify construction of Edwardsport—high gas prices and little competition from renewables—have proved wrong. Second, the costs to both construct and operate Edwardsport have proved to be higher than Duke anticipated. Both of these fundamental changes mean the Commission should closely scrutinize Duke's current and forward-looking Edwardsport costs.

A brief discussion of the troubled history of Edwardsport is useful to understanding the context in which Duke seeks to include these costs in base rates. Fifteen years ago, Edwardsport was conceived as a way for Duke to prepare for a carbon-constrained energy market on the assumption that coal would remain the primary economically viable option for serving Duke's customers. Edwardsport can operate using either synthetic gas (coal converted to natural gas) or natural gas. The syngas or natural gas is used to fire two combined-cycle gas turbines. Edwardsport also includes one steam turbine, fueled by the combined-cycle turbine exhaust and with heat from the coal-to-gas conversion process.[17] At the time of proposal, Duke assumed that operating on coal would be the most economical option: In 2006, Duke argued that given limited supplies and high prices for gas, coal "will likely remain the most practical fuel choice" compared to gas, while being more cost-effective than then-available renewable energy options.[18]

From the outset, Edwardsport has failed to deliver the promised benefits for customers. The construction of the plant itself cost far more than anticipated, costs that engendered significant concerns from the Commission and other stakeholders. In the initial CPCN case,

[17] Direct Testimony of Michael P. Gorman on Behalf of Duke Industrial Group at p. 16 (Nov. 4, 2019) ("Gorman Direct").
[18] Gorman Direct at pp. 23-24 (citing Cause No. 43114, Joint Petitioners' Ex. No. 1 at 4:8-13 (Oct. 24, 2006)).

Duke estimated that its construction costs would be $1.985 billion.[19] That estimate subsequently ballooned to $3.3 billion, although through a settlement in one of the tracker proceedings Duke's shareholders agreed to pay $700 million of these costs.[20] Since the plant went into service in 2013, Edwardsport's O&M costs have been charged to customers under a series of settlements in highly contested tracking proceedings.[21]

The cost overruns did not stop with completion of construction. Duke's projection of Edwardsport's O&M expenses has proved wrong as well. In the CPCN proceeding, Duke projected that its annual total O&M expense for Edwardsport in 2020 would be approximately $51.6 million.[22] Duke's requested O&M in this proceeding is $106 million for 2020, more than twice as high as Duke had anticipated.[23]

Even more fundamentally, the energy market assumptions that motivated Edwardsport's construction of an IGCC plant have changed in at least two significant ways, both in the direction of undermining the plant's coal/syngas economics. First, gas prices have plummeted since 2007 when the Company received a CPCN for this facility. Recent forward prices are about 20% to 30% of the prices Duke projected when it initially sought the Edwardsport CPCN.[24] Second, renewables prices have decreased significantly and renewable penetration into the MISO energy market increases every year.[25] As a result, MISO energy prices have dropped such that even coal-burning facilities that are more economically competitive than

[19] Gorman Direct at p. 19.
[20] *Id.* at pp. 19-20.
[21] *Id.* at pp. 19-23.
[22] Gorman Direct at p. 19.
[23] *Id.* at p. 27.
[24] *Id.* at p. 24.
[25] *See* Cross-Answering Testimony of David A Schlissel on Behalf of [Joint Intervenors] at p. 28 (Dec. 4, 2019) ("Schlissel Cross Ans.") (comparing average wind and solar prices received by NIPSCO to Edwardsport variable costs).

Edwardsport—such as Gibson and Cayuga[26]—are less likely to earn positive energy margins in the MISO energy markets. Duke is increasingly able to purchase energy on the MISO market cheaper than the cost of its coal-fired generation. The cost of syngas-based generation at Edwardsport makes it simply too expensive to compete in the low-energy-prices world that exists today and is expected to continue.

This is the first case in which Duke has sought to include Edwardsport in rates and so careful scrutiny of Edwardsport costs is warranted. This is especially needed because the factual circumstances—today's lower gas prices, increased competition from clean energy, and increased costs at Edwardsport—have clearly changed since Duke conceived this troubled plant.

B. Continued operation of Edwardsport on coal/syngas would lead to unnecessary and excessive costs to Duke's customers.

Edwardsport is, based on record evidence, the highest cost coal plant in Duke's fleet, with production costs much higher than prevailing market prices, and is the highest cost plant in the MISO region of comparable vintage. When operating on coal-converted-syngas, the Edwardsport plant continually has a large, negative energy margin, which means it costs more to run the plant on a variable basis than it earns in MISO energy revenues. These losses are in addition to the plant's excessive capital and fixed costs. Duke's customers would therefore benefit the moment the coal systems at Edwardsport are taken out of service.

Duke has not submitted *any* empirical evidence to support the continued operation of Edwardsport as a syngas plant and has therefore failed to meet its burden to show that the costs of operating Edwardsport are prudent. The Commission could deny these costs on that basis alone. But intervenors, in contrast, *have* provided data indisputably showing that Duke cannot economically justify operating Edwardsport on syngas. On a variable basis alone (i.e., excluding

[26] *See* Section IV below.

fixed costs) the plant lost ratepayers $93 million from 2016 through 2018 relative to the cost of purchasing energy on the MISO market.[27] Further, the plant's fixed costs of operation are ten times as high as comparable combined cycle gas plants. Duke could replace Edwardsport's generation capacity, in its entirety, with a new gas plant for less than the current net costs of continuing to operate on coal/syngas.[28] The combination of these findings is a clear indication that the plant is uneconomic and Duke should retire (or place in storage) its coal systems as soon as possible.

When operating on coal/syngas, Edwardsport's high variable costs render it uncompetitive in the MISO energy market. If the plant had not operated at all from 2016 through 2018, Duke's customers would have saved $93 million in energy costs.[29] As reflected in Figure 1, Duke lost significant sums each year:

Figure 1 (Comings Direct Testimony Figure 1): Edwardsport Energy Revenue and Variable Costs ($millions) [redacted][30]

[27] Comings Direct at p. 4.
[28] *Id.* at pp. 18-20.
[29] *Id.* at p. 10.
[30] *Id.* at p. 11.

In 2016 through 2018, as shown in Figure 2, the plant's average variable costs have consistently far exceeded the MISO energy market costs.

Figure 2 (Comings Direct Testimony Figure 2):
Edwardsport Average Energy Price and Variable Cost ($/MWh)

Operating Edwardsport as a gasification plant requires significant amounts of ancillary use of electricity to power the coal gasification and coal conversion processes.[31] The cost of this parasitic load—which Joint Intervenors' witness Schlissel demonstrated is almost ten times higher than a typical combined cycle gas plant[32]—drives up Edwardsport's variable costs beyond comparable steam generation. Edwardsport's persistent losses in the energy market are especially troubling because for plants that have large fixed and capital costs, as does Edwardsport, a utility should seek to earn a large positive energy margin to help defray fixed costs that will otherwise be borne by customers. Instead, when Duke operates Edwardsport on syngas it is not earning back ratepayers' investment but is *adding* to the total cost of the plant that customers must bear absent intervention from the Commission.

[31] Gorman Direct at p. 33.
[32] Schlissel Cross Ans. at p. 10.

Edwardsport's fixed costs of operation as a syngas facility are also very high. From 2016 through 2018, the plant had approximately [redacted] the fixed costs of either the Cayuga or Gibson plants, on a per kW basis, as reflected in Figure 3. Edwardsport had an average fixed cost of [redacted] per kW over that period, compared to [redacted] per kW for Cayuga and Gibson.

Figure 3 (Comings Direct Testimony Figure 4): Fixed Costs of Cayuga, Gibson and Edwardsport Plants [redacted] ($/kW)

A major driver of the high fixed costs at Edwardsport is the high fixed O&M. Edwardsport's fixed O&M costs [redacted] that of either Cayuga or Gibson, on a per kW basis, as shown in Figure 4. Edwardsport had an average fixed cost of [redacted] per kW over that period, compared to [redacted] per kW for Cayuga and Gibson.

Figure 4 (Comings Direct Testimony Figure 5): Annual Fixed O&M for Cayuga, Gibson and Edwardsport Plants [redacted] ($/kW)

Not only are Edwardsport's fixed costs while operating on syngas substantially higher than other coal plants in the Duke fleet, these costs (along with high variable costs) contribute to the plant being more expensive to continue to operate than building a new gas plant. The plant is already more expensive than the highest price allowed in the MISO capacity market.[33] Duke's customers could build and operate a new combustion turbine for far less than the cost of continuing to operate Edwardsport on coal/syngas, as shown in Figure 5.[34] The incremental net cost of continuing to operate Edwardsport on coal/syngas—accounting for annual capital expenditures, O&M, fuel, and energy revenues (but not including depreciation or rate of return for capital already spent on the plant)—above that of building a new combustion turbine was $[redacted] million for 2016 through 2018. Therefore, ratepayers would have saved huge sums of money if Edwardsport had been replaced during these years.

[33] Comings Direct at p. 19.

[34] Sierra Club witness Comings compared Edwardsport's cost to the MISO "CONE" estimate, which reflects the costs of building a combustion turbine with costs spread out over a defined time period. *See* Comings Direct at pp. 18-20.

Figure 5 (Comings Direct Testimony Figure 3): Edwardsport Net Costs (Fixed and Variable) Compared to MISO Cost of New Entry (CONE)

Moreover, Duke incurs significantly higher fixed O&M expenses to operate Edwardsport than comparable combined cycle units. Industrial Group witness Gorman compared Edwardsport's fixed costs to a proxy group of 15 combined cycle gas units that went into service within the last ten years, are larger than 250 MW, and are located in MISO or are operated by a Duke affiliate company. Mr. Gorman found, as shown in Figure 6, that Edwardsport's fixed non-fuel O&M on a five-year basis has been around $155/kW-year, where the most expensive of the proxy group of combined cycle units was around $18.85/kW-year.[35] In other words, while Edwardsport O&M costs have varied from year to year, they have consistently been around ten times higher than combined cycle generating units of similar vintage.

[35] Gorman Direct at pp. 38-39.

Combined Cycle Unit	State	Operating Capacity	2014	2015	2016	2017	2018	5-year Average
Crystal River CC	Florida	1,640	N/A	N/A	N/A	N/A	$ 1.37	$ 1.37
Marshalltown Genera ing Sta ion	Iowa	706	N/A	N/A	N/A	$ 5.98	$ 9.01	$ 7.50
W.S. Lee Combined Cycle Project	South Carolina	750	N/A	N/A	N/A	N/A	$ 8.98	$ 8.98
Eagle Valley CC	Indiana	671	N/A	N/A	N/A	N/A	$ 12.00	$ 12.00
Nelson Energy Center	Illinois	612	N/A	$ 12.23	$ 11.90	$ 12.60	N/A	$ 12.25
Ninemile 6	Louisiana	608	N/A	$ 9.64	$ 13.79	$ 14.33	$ 12.06	$ 12.46
St. Joseph Energy Center	Indiana	703	N/A	N/A	N/A	N/A	$ 12.71	$ 12.71
AMP Fremont Energy Center	Ohio	724	$ 12.20	$ 12.65	$ 12.50	$ 12.82	$ 13.40	$ 12.72
H.F. Lee Energy Complex	North Carolina	1,059	$ 13.73	$ 9.42	$ 24.36	$ 8.93	$ 10.60	$ 13.41
Moselle CC Plant	Mississippi	285	$ 12.74	$ 13.39	$ 13.99	$ 14.32	$ 15.06	$ 13.90
Buck CC		724	$ 17.05	$ 16.62	$ 13.63	$ 12.60	$ 15.31	$ 15.04
Dan River CC	North Carolina	718	$ 14.31	$ 19.29	$ 14.11	$ 17.46	$ 14.43	$ 15.92
Bartow CC	Florida	1,197	$ 14.91	$ 20.76	$ 22.32	$ 14.02	$ 15.69	$ 17.54
L V Sutton CC	North Carolina	719	$ 11.90	$ 19.02	$ 14.72	$ 14.83	$ 29.71	$ 18.04
Riverside Conversion	Minnesota	502	$ 18.76	$ 16.00	$ 17.21	$ 23.15	$ 19.15	$ 18.85
Edwardsport IGCC	**Indiana**	**618**	**$103.44**	**$142.01**	**$204.02**	**$170.34**	**$158.21**	**$ 155.60**

Source:
Attachment MPG-12.

Figure 6 (Gorman Direct Testimony Table 3)
Combined Cycle Comparison Non-Fuel Production Cost ($kW-year)

Edwardsport's incremental capital investments are also unreasonably high. In the Gorman proxy group of gas plants, the annual capital improvements for a natural gas combined cycle generating unit on a $/kW-year basis has averaged less than $7.[36] In comparison, the annual capital expenditure for Edwardsport in 2019 and 2020 were $30.74/kW-year and $82.52/kW-year.[37]

The pertinent forecasts in the record of this case all show that syngas-generation at Edwardsport will remain uncompetitive for the foreseeable future. First, as shown in Figure 7, Duke is forecasting continued low natural gas prices through the end of this decade, staying below [redacted].[38] These low prices indicate that Edwardsport would continue to hemorrhage customer money if Duke were to continue operating on syngas, and the record is uncontested on this fact. Actual forward prices are even lower than Duke's already-low gas forecast, as recent NYMEX forward prices

[36] Gorman Direct at p. 44.
[37] *Id.* at pp. 44-45.
[38] *Id.* at p. 25.

for Henry Hub natural gas range from $2.234/MMBtu to $3.280/MMBtu during the period 2019 to 2029.[39]

Figure 7 (Gorman Direct Testimony Figure 1):
Gas Price Forecasts [redacted] ($/MMBtu)

Second, Mr. Gorman created a dispatch cost forecast that shows that Edwardsport will continue to be a high cost resource if it is operated on coal.[40] Gorman's dispatch cost analysis concluded that "operating Edwardsport on natural gas would allow it to produce electricity at much lower cost than continuing to operate it as an IGCC" through 2029.[41]

The documents that Duke itself uses to decide how to commit Edwardsport into the MISO energy market confirm that Edwardsport operation on coal/syngas is economically

[39] Gorman Direct at p. 24.
[40] *Id.* at pp. 34-36.
[41] *Id.* at pp. 35-36.

imprudent. While Duke provided its commitment decision documents (which Duke calls the daily Profit and Loss projection) for only three days, all of Duke's energy market commitment decision documents tell the same story: when Duke operates Edwardsport on syngas, it loses lots of money, and if Duke had alternatively operated on natural gas, it would have made money for customers. According to Duke's internal commitment decision documents, for the three weeks beginning January 8, 2020, Edwardsport was projected to lose [redacted] per week if operated on coal or to produce profits of [redacted] per week if operated on gas.[42] For the week beginning on December 19, 2019, Duke projected losses of $[redacted] if Edwardsport were to run on coal that week.[43] The third and final analysis produced by Duke, covering the period from February 21, 2019 through March 13, 2019, also showed a loss for Edwardsport on coal.[44]

Lastly, Edwardsport is not a nimble facility that can respond to changes in the energy market. Edwardsport has a 14-day minimum run so Duke usually just commits this unit as "must run" in the MISO market to avoid cycling and thus excludes it from market logic.[45] When Duke chooses to submit a unit to MISO as "must run," MISO will take at least an "economic minimum" of MWs.[46] Based on hourly bids submitted by Duke, when Edwardsport was not on an outage, it was submitted as "must run" in [redacted]% of hours in 2016 and [redacted]% of hours in 2017 and 2018.[47] For Edwardsport, the economic minimum is [redacted] of the plant's capacity. In

[42] Cross-Examination of John D. Swez at K-37 (Jan. 31, 2020) ("Swez Cross-Exam"). The projections included, on the variable cost side, fuel costs, variable O&M, and emission sorbents; revenue includes the energy market revenue Duke expected to receive from MISO. *See id.* at K-32.
[43] Swez Cross-Exam at K-42.
[44] *Id.* at K-40-41.
[45] *Id.* at K-12 (totaling the economic minimums of self-committed units).
[46] Comings Direct at p. 11.
[47] *Id.; see also* Figures 8, 9, and 10 below.

2018, the plant's average must-run minimum was 415 MWs and its average maximum was 474 MWs.[48] The upshot is that Edwardsport was committed to the MISO market for almost the entirety of 2016-18 without *any* economic flexibility; the plant consumed coal and cost ratepayers without regard to the prices or availability of energy on the MISO market.

Converting Edwardsport to gas-only operations would not only immediately save customers huge sums of money in fixed O&M, variable O&M, and variable fuel costs, but would also allow Duke to have a more nimble generation fleet that can respond to market conditions more effectively. If Edwardsport were run as a natural gas facility, it could respond more quickly to price signal changes in the MISO market as its minimum run time would be reduced from 14 days to "around 24 hours."[49]

C. Duke has not studied Edwardsport's going-forward economics and offers no empirical analysis of its own to support the prudence of ongoing spending as a gasification plant.

Perhaps because the Company recognizes how deeply uneconomic Edwardsport has been, is, and will continue to be, Duke has failed to offer any analysis to support its continued operation on syngas. In its 2018 IRP, Duke studied retirement dates of Cayuga and Gibson units in the 2020s, but declined to study the retirement of Edwardsport.[50] Duke also declined to study the ongoing economics of Edwardsport in any other way, and has not, as far as intervenors were able to discern in discovery,[51] ever studied the net present value of shifting to gas-only

[48] Comings Direct at p. 12.
[49] Swez Rebuttal at p. 31 (stating 14-day minimum run time on syngas/coal); Swez Cross-Exam at K-54-55 (stating minimum run time on natural gas is "around 24 hours").
[50] Comings Direct at pp. 4, 26.
[51] Gorman Direct at p. 28 ("IG asked Duke to make a net present value estimate of operating Edwardsport on natural gas compared to continued operation as an IGCC … Duke did not provide any substantive answer.").

generation at Edwardsport. Duke declined to produce any new present value estimates for Edwardsport during discovery in this case.[52]

In direct testimonies in this case witnesses for Sierra Club, Joint Intervenors, the Industrial Group, and OUCC—witness Alvarez for OUCC stated that Edwardsport's O&M is "excessive and unreasonable"[53]—all challenged the reasonableness of Edwardsport costs, providing empirical data to show that syngas operations are imprudent and will remain so. In its rebuttal testimonies, Duke did not defend the economics of Edwardsport other than with blanket statements such as Mr. Gurganus's view, unsupported by any empirical analysis, that the proposed Edwardsport O&M is "reasonable."[54] Duke witness Swez, in a section titled "Generating Unit Commitment," offered a defense of Duke's Edwardsport commitment practices, but not a word in defense of the plant's ongoing coal/syngas economics as a resource planning matter.[55] In his testimony, Mr. Swez explains that Edwardsport is an extremely inflexible generating unit—with a 14-day minimum run—but he offers no empirical defense of maintaining the plant as a gasification facility.

Instead of data, Duke offers two superficially plausible but ultimately not compelling qualitative arguments for charging customers vast sums of money for Edwardsport coal/gas operations. First, Duke argues that Edwardsport is a new plant and the Commission should therefore allow it to continue operating on syngas.[56] This is the famous sunk cost fallacy that Economics 101 students know should be avoided for any going-forward economic decision.

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[52] Gorman Direct at p. 28.
[53] Testimony of Anthony A. Alvarez on Behalf of Indiana Office of Utility Consumer Counselor at p. 11 (Oct. 30, 2019).
[54] Rebuttal Testimony of Cecil T. Gurganus on Behalf of Duke Energy Indiana at p. 22 (Dec. 4, 2019) ("Gurganus Rebuttal").
[55] Rebuttal Testimony of John D. Swez on Behalf of Duke Energy Indiana at pp. 17-32 (Dec. 4, 2019) ("Swez Rebuttal").
[56] Gurganus Rebuttal at p. 5.

Essentially, Duke is saying that a driver who knows he has taken a wrong turn on a road should not change direction solely because the errant turn occurred recently.[57] Second, Duke argues that concern for "diversity" of its fleet might somehow warrant Edwardsport maintaining syngas/coal operations.[58] While diversity is not a meritless concern, Duke's current fleet is 90% coal (on an energy basis),[59] and therefore it makes no sense to maintain the most-expensive coal plant in Indiana to keep coal as part of a coal-dominated portfolio.

D. Summary of Recommendation: Edwardsport

For coal-related O&M and capital maintenance, the record evidence indisputably shows that coal-related costs at Edwardsport are all excessive, imprudent, and should be denied. Industrial Group witness Gorman estimates these coal-handling and gasification-related O&M costs at $[redacted] million and annual recurring capital maintenance costs at $[redacted] million, though he conceded that his estimate is not precise because Duke refused to provide the appropriate data in discovery.[60] The Commission should order Duke to provide an accurate accounting of going-forward costs that would be avoided if Duke ceased relying on syngas, and all of those costs should be denied.

For the remaining non-coal O&M and capital maintenance costs (i.e., those expenses required to operate the plant on natural gas only), there is little reliable evidence in the record that assesses the economic competitiveness of gas-only operations at Edwardsport. Duke

[57] Unlike Duke, Southern Company has ended its gasification experiment at the Kemper plant in Mississippi even after incurring significant sunk costs. *See In Re: Encouraging Stipulation of Matters in Connection with the Kemper Cty. IGCC Project*, No. EC-120-0097-00, 2017 WL 6291658, ¶ 32 (Miss. Pub. Serv. Comm'n Nov. 28, 2017) (stating that the utility "has continued to wind down all IGCC operations since" June 2017).
[58] Gurganus Rebuttal at p. 7.
[59] Direct Testimony of Stan C. Pinegar on Behalf of Duke Energy Indiana at p. 21 (July 2, 2019).
[60] Gorman Direct at p. 50.

pointedly failed to assess the option of operating Edwardsport on gas alone. Because Duke bears the burden to show that these costs are prudent, the Commission would be warranted to deny outright these costs as well. Alternatively, the Commission could include in the revenue requirement the costs for Edwardsport gas operations and establish a tracker docket to assess whether it is prudent to incur such costs going forward. In addition, the Commission should order Duke to develop a plan for gas-only Edwardsport operations that is in the best interest of customers and should allow for a fully contested case so that stakeholders can evaluate and offer recommendations on such plan.[61]

III. The Commission Should Disallow Duke's Proposed Increase of 86% in the Base Cost of Fuel, And Should Require Prudence Review of Significant Coal Supply Contracts.

Duke requests a new proposed base cost of fuel of 26.955 mills per kWh, based on the Company's forecasted dispatch of system resources for 2020.[62] This requested base cost is almost twice the Company's current base cost of fuel, 14.484 mills per kWh. It is also significantly *greater* that the net fuel charge actually incurred by Duke according to its most recent FAC filing.[63] Included in this base cost (at Exhibit 5-F in Sieferman's testimony) is a forecasted almost-$103 million in coal for Edwardsport's IGCC unit, a nonviable unit. Even setting aside Edwardsport, Duke has a longstanding history of significantly overestimating its coal burn and creating inflated generation dispatch forecasts. Compounding these problems,

[61] If Duke wished to, as a reversal of its approach to this rate case, present an economic justification for continuing coal/syngas operations at Edwardsport—notwithstanding the denial of all of those coal-related costs in this case—it could attempt do so in the recommended Edwardsport gas operations subdocket proceeding.
[62] Direct Testimony of Suzanne E. Sieferman on Behalf of Duke Energy Indiana at p. 17 (July 2, 2019) ("Sieferman Direct").
[63] *See Appl. of Duke Energy Ind., LLC for Approval of a Change in its Fuel Cost Adjustment for Elec. Serv.*, Cause No. 38707 FAC 123 at p. 5 (Jan. 31, 2020) (requesting a net fuel charge of 22.785 mills per kWh).

Duke has historically entered into long-term coal supply contracts—some totaling into the billions of dollars—that limit its ability to adjust to its incorrect coal-burn forecasts. For years, Duke has had to devise schemes to rid itself of excess coal such as coal price decrements and delivery deferrals. These schemes waste customers' money.

Granting Duke's requested base cost of fuel, based on its incorrect forecasts and the inclusion of $103 million for Edwardsport coal fuel costs, would enshrine imprudent and excessive costs in customers' rates. Granting Duke's request could also allow it to continue its imprudent coal procurement practices and heavy dependence on "must run" commitment for many years. The Commission should deny the requested base cost increase, which will ensure that it is able to engage in more-rigorous oversight in Duke's quarterly fuel adjustment charge proceedings. In addition to denying the increase, the Commission should also, to address Duke's longstanding coal oversupply problem, order Duke to obtain a prudency determination for any future large-scale coal supply contracts as a condition of recovery. Duke, in seeking to increase its base cost of fuel 86% from current levels and well beyond its actual expenditures, wants a blank check to fund its imprudent coal oversupply and use of Edwardsport. The Commission should not write it.

A. Duke continues to rely on excessive burn forecasts, leading to both overestimated fuel costs and coal oversupply.

Duke's requested rate includes a base cost of fuel that is nearly double its current base cost. This requested rate is predicated on Duke's dispatch forecast for 2020, which was produced in 2018.[64] But as past proceedings before this Commission and testimony in this case show, Duke systematically overestimates how much coal it will burn in a given period. These misjudged coal burn projections have resulted in Duke undertaking wasteful oversupply

[64] Sieferman Direct at p. 17.

mitigation strategies at customers' expense. The Commission should not lock in a base cost of fuel for ratepayers premised on excessive fuel burn forecasts.

Duke has been overestimating its fuel needs (and purchasing coal on the basis of these forecasts) since at least 2012. In past years, when Duke has purchased more coal than it is able to economically use, it has relied on price decrements—effectively selling energy into the MISO market at less than the cost of generating that energy in order to burn off coal stockpiles. The effect of such price decrements is to increase Duke's overall fuel and purchased power costs relative to what they would have been without the excess supply; this waste is then passed onto consumers. Duke regularly used price decrements during 2012 through 2015.[65] The Company was forced to use coal price decrements again throughout the first half of 2016; during the first four months of that year the decrements amounted to a third or more of the price Duke had paid for the uneconomically burned coal.[66]

Although Duke has not used price decrements to mitigate excess coal supply since 2016, the Company has continued to produce burn forecasts that overestimate the amount of coal Duke actually ends up using to meet customers' energy needs.[67] Duke was forced to adjust its burn

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[65] *See Appl. of Duke Energy Ind., LLC for Approval of a Change in its Fuel Cost Adjustment for Elec. Serv.,* Order of the Comm'n, Cause No. 38707 FAC 96, 2013 WL 5948011, at *4-6 (Ind. Util. Reg. Comm'n Oct. 30, 2013); *see also In the Matter of the Pet. of Duke Energy Ind., LLC,* Order of the Comm'n, Cause No. 44348, at p. 6 (Ind. Util. Reg. Comm'n Feb. 22, 2017) ("[B]eginning in July 2015, a non-zero decrement was implemented for the Cayuga and Gibson units, with the decrement being extended to Wabash River Unit 6 in November 2015. A non-zero price decrement continued through the third week of June 2016.").

[66] Duke's Resp. to Sierra Club's Data Req. No. 6.3; *cf.* Cross-Examination of Brett J. Phipps at G-8-9 (Jan. 29, 2020) ("Phipps Cross-Exam") [redacted]

The Company's reliance on price decrements suggests Duke's coal contracts are imprudent as to price as well as volume. As Duke's witness Phipps admitted on cross-examination, Duke was unable to resell any of its coal into the market between 2017 and 2019 because coal prices during this period have been consistently higher than the contractual prices Duke paid. *See* Phipps Cross-Exam at F-70. Duke has not resold any coal into the market since 2013. *Id.* at F-75-76.

forecasts downward in 2016, 2018, 2019, and 2020.[68] Indeed, in December 2019, Duke revised its 2020 burn forecast downward by more than 10%—from a forecasted 11.6 million tons (a prediction made only two months prior, in October 2019) to 10.4 million tons.[69] Since the hearing in this matter ended (as of February 2020), Duke dramatically decreased its burn forecast even further and now anticipates burning only 6.5 million tons of coal for all of 2020—a little more than *half* its burn forecast in October 2019. Only three months before the start of 2020, Duke had overestimated its coal needs by *twofold*.[70]

Indeed there is evidence that in the absence of coal price decrements, Duke is using self-commitment of Edwardsport and Cayuga as a means of burning off excess coal, with significant losses and corresponding increased costs for ratepayers. Edwardsport was operated as "must run" for [redacted] of 2016 and [redacted] of 2017 and 2018.[71] This practice of committing Edwardsport as "must run," even when uneconomic to do so and at the expense of ratepayers, continued into 2019 and 2020.[72]

Despite its history of reliance on price decrements and downward revisions, Duke offered no evidence in this proceeding that it has addressed, or indeed has any intention of addressing, its

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Moreover, Duke's witness was unable to testify as to the *current* costs of storing coal, and admitted that Duke does not *currently* calculate these costs. *Id*. at G-26-28. Thus, with respect to its current oversupply problem, Duke appears to lack critical information to select between possible mitigation strategies.

[68] Phipps Cross-Exam at F-54.

[69] *See id.* at F-40.

[70] *See* Testimony of Michael D. Eckert on Behalf of Indiana Office of Utility Consumer Counselor in Cause No. 38707 FAC 123 at pp. 6-7 (Mar. 6, 2020).

[71] Comings Direct at pp. 8-9, 30-31.

[72] Notably, in the most recent FAC proceeding (Cause No. 38707 FAC 123), the Commission opened a subdocket to examine Duke's commitment decision-making processes and determine what portion of Duke's requested fuel charge should be disallowed as reflecting imprudent uneconomic commitment decisions with respect to Edwardsport's IGCC unit and Cayuga. *See* Order in Cause No. 38707 FAC 123 (Ind. Util. Reg. Comm'n Mar. 12, 2020); *see also* Ex. JI CX-30 (Duke Profit and Loss Projection for week of January 13, 2020).

forecasting problem. As of October 2019, the Company projected an annual burn of 11 to 12 million tons of coal each year through 2024.[73] Yet despite being forced to revise its burn forecasts by more than a million tons of coal in December 2019, Duke did not revisit or revise its forecasts beyond 2021.[74] In other words: Duke *continues to rely on* burn forecasts of up to 12 million tons of coal for 2022, 2023, and 2024 despite the fact that Duke now knows this amount to be excessive for 2020.

Duke's reliance on long-term coal supply contracts have compounded the problems caused by its inaccurate forecasting and burn overestimation. These long-term contracts with minimum volume commitments limit Duke's ability to adjust to inflated coal burn estimates. According to Duke witness Phipps, Duke has internal "risk guidelines" that it uses to plan how much of a given future year's anticipated coal needs should be under contract, or hedged, at a given point in time.[75] Yet Duke has entered into long-term coal supply contracts based on excessive burn forecasts that have caused the Company to exceed its own hedging risk guidelines. Despite this trend, Duke has not reduced its coal purchases. To the contrary, in attempting to respond to the surfeit of contracted coal it faces year after year, the Company has elevated the economic well-being of its coal suppliers over its customers and has engaged in a series of imprudent responses to coal oversupply that have deepened and extended the problem.

According to Phipps, Duke's "risk guidelines" recommend that at the end of a given year, the Company should be under contract for 65-100% of the next year's coal, 30-65% for the year following (i.e., Year 2), 0-30% for Year 3, 0-20% for Year 4, and 0-20% for Year 5.[76] Duke

[73] Phipps Cross-Exam at F-35.
[74] *See id.* at F-46 (stating that hedge percentages for the years 2022, 2023, 2024, and 2025 "remain the same")
[75] *Id.* at F-35.
[76] *Id.* at F-35-36.

was, at the time of the hearing in this case (January 2020), already contracted for coal supply well above its own internal risk guidelines. Phipps testified that Duke was at the time hedged at 120% of its current burn forecast for 2020; that is, Duke was contractually obligated to purchase 20% more coal in this year than the Company predicted it would actually use.[77] For 2021, Duke was hedged at 65 or 70%. For 2022 (i.e., Year 3), Duke was 40% hedged and for Years 4 and 5, Duke is already locked into hedge positions more than twice the level recommended in its "risk guidelines."[78] Indeed, these numbers actually *understate* the degree to which Duke has violated its own recommendations, because they are based on Duke's *own forecast* for coal needs in Years 2-5; but as Phipps testified and discussed above, Duke has since reduced its 2020 forecast by nearly one-half.[79] In short, Duke's forecasting errors and reliance on long-term coal contracts have led it to commit to future hedge positions that are well in excess of what the Company itself deems to be reasonable.[80]

Duke's past, present, and future coal oversupply thus reflect two related problems. First, Duke has struggled to accurately forecast its coal needs, creating projections that significantly overestimate future burns. Second, at least in part due to reliance on these forecasts, Duke has entered into long-term coal contracts that result in coal oversupply. Since 2012, Duke has been purchasing more coal than it needs to economically meet its customers' energy needs. For a number of years, Duke mitigated this oversupply by offering energy from its coal plants into the

[77] Phipps Cross-Exam at F-44.
[78] *Id.* at F-46-48.
[79] That is, Duke is already contractually committed to purchase 40% or more of the 11 to 12 million ton *forecast* for 2023 and 2024 but Duke is likely to burn *less* coal in those years than forecasted making the hedging position an even higher percentage.
[80] There is also evidence that Duke has been over-hedged in recent past years as well. Phipps testified that total spot coal purchases—i.e., purchases made outside the long-term contracts that make up the described hedging positions—made up less than a million tons between January 1, 2017, and December 31, 2019, a relatively small fraction of the total coal burned during that period. *See* Phipps Cross-Exam at F-60.

MISO market at a reduced price—effectively discounting the cost of coal burned to generate the energy in an effort to get rid of it. Duke has moved away from this mitigation strategy in recent years, but the problem of oversupply remains. On Duke's own estimate, it is under contract for 20% more coal in 2020 than it currently anticipates burning, and there is no end in sight to the oversupply problem; Duke has already exceeded its own internal guidelines for hedging for the next four years through its long-term coal contracts. Duke has failed to demonstrate that it can accurately predict its own needs and purchase coal on the basis of those predictions in quantities or with contractual terms that will not result in continuous coal oversupply and unnecessary and excessive costs to ratepayers.

B. Duke's requested base cost of fuel is unreasonable.

The Commission should disallow Duke's request for an increase in the base cost of fuel. Duke's request to increase its base cost of fuel by 86% is unreasonable for at least two reasons. First, it is almost certainly predicated on an erroneously high-burn forecast. Duke's proposed base cost of fuel is based on "the Company's forecasted dispatch of system resources for 2020."[81] The methodology used to produce this forecast was, according to Duke witness Christopher M. Jacobi, "essentially the same as that presented in past Integrated Resource Plans," and the projection itself was "developed in the Fall of 2018."[82] In light of the Company's history of overestimating its fuel burn, and downward revisions to the 2020 burn forecast as recently as December 2019, Duke has not demonstrated its proposed base cost of fuel is reasonable.

Second, and at a minimum, the Commission should remove from the revenue requirement that portion of Duke's base cost of fuel attributable to coal purchases for

[81] Sieferman Direct at p. 17.
[82] Direct Testimony of Christopher M. Jacobi on Behalf of Duke Energy Indiana at p. 8 (July 2, 2019).

Edwardsport in its entirety. Duke has requested $102,953,000 in coal fuel costs for Edwardsport, which equals approximately 3.366 mills per kWh, or a fourth of the proposed increase. But as many intervenors have demonstrated in their respective testimonies, operating Edwardsport on coal is imprudent because it has a persistent negative energy margin and is an extremely high cost resource compared to other options for meeting customers' energy and capacity needs, such as operating Edwardsport on gas.[83] The Commission should protect ratepayers and not allow Duke to charge ratepayers for the cost of coal to operate an imprudent resource.

Removal of all or part of Duke's requested base cost of fuel from the revenue requirement will not harm Duke as the Company can still obtain reimbursement for prudently expended fuel costs in the future through its quarterly fuel docket proceedings.[84] If the Commission authorizes the full requested base cost of fuel—including more than $100 million, per year, in coal fuel costs for Edwardsport—there could be less rigorous review of Duke's fuel costs in the adjustment proceedings. Duke may enter into multi-billion dollar coal contracts, continue to purchase more coal as a condition of deferrals of past oversupply, and make spot coal purchases without regard to its actual needs without oversight—and customers will have already been committed to picking up the tab.

C. Duke's imprudence in procuring coal shows the need for Commission oversight.

Commission oversight is required for Duke's coal contracts. Even if past contracts had not resulted in over-supply and over-hedging, the magnitude of the financial outlay associated with each contract would warrant scrutiny. [redacted]

[83] *See* Section II, above.
[84] *See* Ind. Code § 8-1-2-42.

[redacted].[85] A contract on this scale—with a price tag greater than the total construction costs originally requested for Duke's IGCC unit at Edwardsport[86]—should have been conditioned on Commission oversight via a specific determination of the prudence of Duke's decision to enter into the contract. But Duke has also demonstrated a poor track record with respect to coal contracting more generally; when such outsized contracts result in coal oversupply, the Company's responses have failed to protect ratepayers. Given the cost magnitude of Duke's fuel purchases, and Duke's inadequate or imprudent responses to the problems created by such contracts, Duke should not be permitted to continue to commit ratepayer funds on a large scale without prudence review by the Commission of its significant coal contracts.

Duke's recent coal purchasing choices have amplified its oversupply problem or benefited its suppliers at the expense of ratepayers. For example, less than two weeks before Duke revised its 2020 burn forecast downward by more than 10%, the Company contracted for a "spot purchase" of 500,000 tons of coal for delivery in 2020.[87] At the time the purchase was made, the Company already knew it expected *more* in coal deliveries for 2020 ("approximately 12 million" tons) than its October 2019 burn forecast anticipated (11.6 million tons).[88] Moreover, Duke has become trapped in an oversupply cycle where it defers purchases *or agrees to purchase yet more coal* in order to avoid taking on storage of contracted-for coal supplies

[85] Phipps Cross-Exam at G-6-9, Ex. JI CX-15-C.
[86] *See Pet. of Duke Energy Ind., Inc.,* Order of the Comm'n, Cause No. 43114, at p. 62 (Ind. Util. Reg. Comm'n Nov. 20, 2007) (Petitioner requested to recover IGCC Project costs up to $1.985 billion).
[87] Phipps Cross-Exam at F-49-51.
[88] *Id*.

beyond what it needs.[89] Duke deferred delivery of 2 million tons of coal in 2019 to 2020.[90] This arrangement simply pushed the problem to the next year; the Company is over-hedged for 2020 as well and plans to store 1.4 million tons of coal at one mine in 2020.[91] Even more egregiously, in summer 2019, [redacted] Duke has responded to its long-standing oversupply problem with short-term mitigation strategies that have already and will continue to exacerbate the problem.

Testimony by Duke's witnesses in this proceeding does not explain or justify these purchases or deferrals. To the contrary, Duke's lead witness on fuel supply testified that its purchase of 500,000 tons of coal in December 2019 was motivated by a desire to provide "opportunities" for a "financially struggling" *supplier* so as maintain "supplier diversity" and thus hypothetically obtain lower prices in the future.[93] Although Phipps denied that the purchase was made for the benefit of the supplier, he acknowledged that at the time the purchase was made Duke already had more coal under contract for 2020 than the Company was projected to burn.[94] Even if Duke did not purchase unneeded coal at ratepayer's expense to financially prop up one of its coal suppliers, the Company by its own admission purchased half a million tons of coal at a cost of millions in December 2019 not because it *needed* the coal to meet ratepayers'

[89] As of May 31, 2019, Duke had on-site supplies of coal well in excess of its 45-day target at Gibson (where it has 52 days of coal supply) and Cayuga (where it has 58). Direct Testimony of Brett Phipps on Behalf of Duke Energy Indiana at p. 7 (Oct. 29, 2019) ("Phipps Direct"). (Edwardsport had a 40-day supply as of that date.)
[90] Phipps Cross-Exam at F-49.
[91] *Id.* at F-81.
[92] *Id.* at F-107.
[93] *Id.* at F-51-52.
[94] *Id.* at F-52.

energy demand, but because the price was *lower* than Duke had already committed to pay under its long-term contracts.[95] Duke was, in effect, a shopper who could not pass up a good price—even if its pantry was already overstocked.

The Commission should not allow Duke to continue to spend ratepayers' money so irresponsibly. The Commission should therefore create a process for oversight of Duke's decisions to enter into long-term coal supply contracts via establishment of a coal contracting subdocket. Specifically, the Commission should issue an order requiring Duke to obtain a prudence determination before it can receive ratepayer recovery for a significant coal supply contract. The Commission should define such a 'significant' contract as one with a term of more than two years or total estimated contract amount of $50 million or more.[96] The record in this proceeding demonstrates that more-rigorous, continued oversight is necessary to ensure that, going forward, Duke is committing ratepayer money on the order of billions of dollars in a reasonable way.

Duke has consistently overestimated how much fuel it will need and entered into long contracts in reliance on these inaccurate forecasts. Duke nevertheless seeks to almost double its base cost of fuel to a rate *higher than* it actually sought in its most recent FAC proceeding. This proposed base cost of fuel would include almost $103 million in fuel costs at Edwardsport and relies on a 2020 burn forecast that is inaccurately high. The Commission should deny this unreasonable request, disallow entirely the fuel costs associated with the continued imprudent

[95] Phipps Cross-Exam at F-52.

[96] As Duke's witness Phipps testified, he is authorized to enter into coal contracts with a value less than his "delegation of authority;" typically, contracts extending for two years or more exceed this delegation and must be signed by his supervisor. Phipps Cross-Exam at F-67. A two-year-term threshold for Commission oversight would thus track Duke's existing internal decision-making process, minimizing any disruption and delay.

operation of Edwardsport, and order Duke to obtain a specific prudence determination for any future significant coal supply contracts.

IV. If The Commission Approves the Revenue Requirement for Gibson and Cayuga, It Should Do So Subject to Adjustment in a Subdocket To Examine Whether Duke Prudently Operates These Plants.

Duke operates Gibson and Cayuga, like Edwardsport, in a manner that is not properly aligned with the customers' economic interests. To protect customers, if the Commission includes Cayuga and Gibson costs in the revenue requirement, it should do so subject to the condition of establishing an annual tracker docket to determine whether Duke is imprudently operating these units by self-committing the units regardless of the financial implications for customers.

On the average day, Duke self-commits at least 1,150 megawatts of coal-fired generation regardless of whether its own analyses indicate that the plants would lose money on a marginal basis.[97] At Gibson, Duke generally commits two of Gibson's three units, or 400 megawatts, as "must-run" regardless of any economic analysis.[98] As Duke's own witness admitted, the Company also commits one unit of the Cayuga plant at a minimum load of 300 megawatts as a "must-run" unit because it has a contractual obligation to provide steam to an industrial customer and it does this regardless of whether the Profit and Loss Analysis indicates a loss.[99] Figures 8, 9, and 10 below show the Company's designation of dispatch status for all hours in 2016, 2017,

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[97] Swez Cross-Exam at K-12.

[98] *Id.*

[99]
Q: Okay, so basically is this a situation where regardless of the results of the economic review of the Cayuga plant, one of the units is always committed into MISO as must-run assuming one is available?

A: That's correct

See Swez Cross-Exam at K-2:10-14; *see also* Swez Rebuttal at p. 29.

and 2018, respectively. This shows that in these three years, the units were bid in as "must run"—or self-committing—in [redacted] available.

Figure 8 (Comings Direct Testimony Figure 4):
Coal Unit Bid Status by Hour, 2016 [redacted] [100]

Figure 9 (Comings Direct Figure 5):
Coal Unit Bid Status by Hour, 2017 [redacted] [101]

[100] Comings Direct at p. 31.
[101] *Id.* at p. 32.

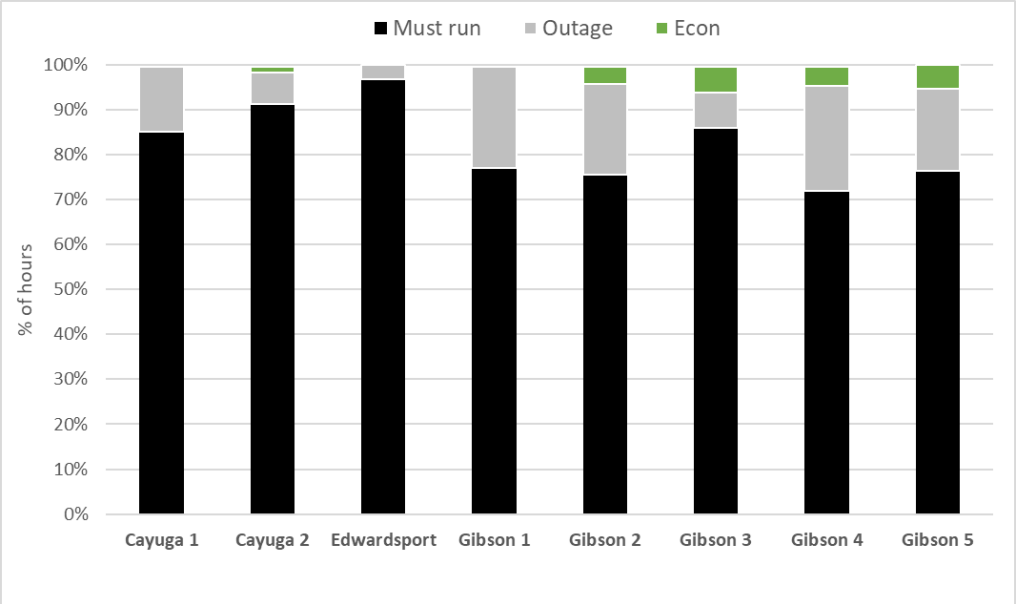

Figure 10 (Comings Direct Figure 6):
Coal Unit Bid Status by Hour, 2018[102]

At Cayuga, this use of "must-run" status without regard to marginal gains or losses on the energy market is done for the benefit of one industrial customer. To fulfill a steam sales contract at Cayuga, Duke must operate at least one unit at a level that frequently exceeds what is economical on the MISO market. Duke's commitment of one unit of the Cayuga plant as a "must-run" unit thus unfairly requires the Duke's electric customers to shoulder losses associated with the plant without the corresponding benefit—steam or its corresponding revenue:

> Q: [S]o if the variable costs of running the unit are higher than the revenues that come in, that loss is borne by customers, not by the steam plant.
>
> A: The response says it's [i.e. the loss is] not currently allocated to the steam customer, so the economic impact wouldn't necessarily result in those costs going to our customers; they would be divided between – could be native or non-native depending on how the unit's output was allocated after the fact.
>
> Q: Okay, so native or non-native customers would cover that cost.
>
> A: I believe that's correct, yes.

[102] *Id.*

* * *

Q: Okay, so if the steam sales generate revenue above the losses of running the Cayuga unit, those revenues are not passed on to customers; correct?

A: Yes, I believe that's the way I answered it.[103]

In other words: Any losses on the energy market due to steam operation are borne by captive electricity customers, not the steam customer whose contract required the Cayuga unit to operate; but the revenue associated with selling steam goes to Duke. Duke's practice of committing one unit of Cayuga as "must-run" to satisfy a steam contract with an industrial customer regardless of whether the plant would lose money on the energy market has thus likely led to excessive and unnecessary costs to Duke's ratepayers.

More broadly, Duke's use of "must-run" status and reliance on self-commitment for its coal plants has historically led to excessive and unnecessary costs, which will likely continue into the future if Duke continues this imprudent practice. Mr. Comings determined that Duke's commitment practices caused Gibson and Cayuga to produce marginal losses for months at a time, totaling $13.6 million and $79 million between 2016 through 2018, respectively.[104]

Duke attempts to rebut Mr. Comings' analysis by disputing Mr. Comings' inclusion of outage costs in the variable O&M costs as part of these loss calculations. As an initial matter, these variable O&M costs were provided by the Company[105] and the inclusion of outage costs is consistent with how Duke itself classifies variable O&M in other contexts.[106] Nevertheless, even assuming Duke does not include outage costs in its offers into the MISO energy markets, Duke's

[103] Swez Cross-Exam at K-6:22 - K-7:7, K7:16-19; *see also* Ex. JI CX-29
[104] *See* Comings Direct at p. 33.
[105] *See e.g.*, Comings Direct at p. 33, n.40 ("Variable O&M (VOM) was taken from Duke's analysis in Confidential Attachment OUCC 6.3-A(2).").
[106] *See*, *e.g.* Pike Cross-Exam at G-72 - G-73:19 ("We include long-run planned outage cost rates in our variable O&M"); *see also id.* at G-74:16-19 ("the outage O&M is embedded in the variable O&M and is not separate."), G-75:16-18.

supposed rebuttal misses the point. However labeled, outage costs must be covered for Duke's generation at these facilities to result in net revenue. If the energy margin for MISO market sales is not large enough to cover them (as Mr. Comings' analysis shows), ratepayers will pay for them, in addition to all of the other fixed and capital costs for the plant. Even if Duke were operating units on a *variable* economic basis (i.e., when energy revenues were above variable costs), a prudent utility would not just look at its energy margin to determine if it should continue to operate a plant but at all of the prospective costs and its total losses to determine if it is prudent to still operate the plant.[107]

Gibson and Cayuga are economically on the bubble. If the Commission were to include the O&M and capital maintenance costs for these two plants in base rates without condition, Duke could continue to operate them for years to come without significant regulatory oversight. Continued, unmonitored operation could lead to significant costs for ratepayers given that in just three years Duke's self-commitment decisions at these two facilities led to $92.6 million in variable costs that were not covered by energy market revenues. Given the historic losses at these plants and Duke's acknowledgement that it commits these units as must-run regardless of its own economic analysis, it would be imprudent for the Commission to abdicate supervision of these plants. The Commission should thus approve the revenue requirement for these plants only subject to adjustment and establish an annual tracker docket to determine if Duke is imprudently operating these units by self-committing the units regardless of the financial implications for ratepayers.

[107] Comings Direct at p. 25.

V. Conclusion

For the foregoing reasons, Sierra Club respectfully asks that the Commission protect Duke's customers from an unreasonable rate increase by accepting the recommendations provided herein.

Respectfully submitted,

/s/ Kathryn A. Watson

Kathryn A. Watson
Cantrell & Mehringer, LLP
150 West Market Street, Suite 800
Indianapolis, IN 46204
Telephone: 317.352.3510
Fax: 317.352.3501
kwatson@csmlawfirm.com

Tony Mendoza
Senior Attorney
Sierra Club
2101 Webster St., 13th Floor
Oakland, CA 94612
tony.mendoza@sierraclub.org
(415) 977-5589

Kristin Henry
Managing Attorney
Sierra Club
2101 Webster Street, Suite 1300
Oakland, CA 94612
kristin.henry@sierraclub.org
(415) 977-5716

Josh Smith
Senior Attorney
Sierra Club
2101 Webster Street, Suite 1300
Oakland, CA 94612
joshua.smith@sierraclub.org
(415) 977-5560

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing was electronically delivered this 30th day of March, 2020 to the following:

Office of Utility Consumer Counselor
Randall Helmen
Jeffrey Reed
Abby Gray
Scott Franson
rhelmen@oucc.in.gov
jreed@oucc.in.gov
agray@oucc.in.gov
infomgt@oucc.in.gov
sfranson@oucc.in.gov

Duke Industrial Group
Tabitha L. Balzer
Todd A. Richardson
Aaron A. Schmoll
tblazer@lewis-kappes.com
trichardson@lewis-kappes.com
aschmoll@lewis-kappes.com

Nucor Steel
Anne E. Becker
Peter J. Mattheis
Shaun C. Mohler
abecker@lewis-kappes.com
pjm@smxblaw.com
smohler@smxblaw.com

Indiana Coal Council
Jeffrey A. Earl, Esq.
jearl@boselaw.com

Walmart
Eric E. Kinder
Barry Naum
ekinder@spilmanlaw.com
bnaum@spilmanlaw.com

Duke Energy Indiana
Kelley A. Karn
Melanie D. Price
Elizabeth A. Herriman
Andrew J. Wells
Kelley.karn@duke-energy.com
Melanie.price@duke-energy.com
Beth.herriman@duke-energy.com
Andrew.wells@duke-energy.com

Kay E. Pashos
Mark R. Alson
Kay.pashos@icemiller.com
Mark.alson@icemiller.com

Steel Dynamics. Inc.
Robert K. Johnson, Esq.
Damon E. Xenopoulos
rjohnson@utilitylaw.us
dex@smxblaw.com

Citizens Action Coalition/INCAA/Environmental Working Group
Jennifer A. Washburn
Margo Tucker
jwashburn@citact.org
mtucker@citact.org

Wabash Valley Power Association
Randolph G. Holt
Jeremy L. Fetty
Liane K. Steffes
r_holt@wvpa.com
jfetty@parrlaw.com
lsteffes@parrlaw.com

Chargepoint, Inc.
David T. McGimpsey
dmcgimpsey@bgdlegal.com

Kroger
Kurt J. Boehm, Esq.
Jody Kyler Cohn, Esq.
John P. Cook
Kevin Higgins
kboehm@bkllawfirm.com
jkylercohn@bkllawfirm.com
john.cookassociates@earthlink.net
khiggins@energystrat.com

Dept. of Navy, on behalf of Fed. Exec. Agencies
Shannon M. Matera
Cheryl Ann Stone
Kay Davoodi
Larry Allen
Shannon.matera@navy.mil
Cheryl.stone1@navy.mil
Khojaesteh.davoodi@navy.mil
Larry.r.allen@navy.mil

Hoosier Energy Rural Electric Cooperative, Inc.
Christopher M. Goffinet
Mike Mooney
cgoffinet@hepn.com
mmooney@hepn.com

Indiana Laborers District Council
Neil E. Gath
Erin Hutson
ngath@gathlaw.com
ehutson@liuna.org

Zeco Systems, Inc. d/b/a Greenlots
Erin C. Borissov
eborissov@parrlaw.com

/s/Tony Mendoza