



March 31, 2023

Via email

Indiana Utility Regulatory Commission
Attn: Research, Policy, and Planning Division
101 W. Washington Street, Suite 1500 E.
Indianapolis, IN 46204-3407
bborum@urc.in.gov

Re: Sierra Club Comments on AES Indiana's 2023 Integrated Resource Plan

Dear Dr. Borum:

Sierra Club offers these comments on AES Indiana's 2023 Integrated Resource Plan. We have three recommendations for AES Indiana's resource planning. First, the costs and risks of operating Petersburg units 3 and 4 on coal beyond 2025 are significant such that AES Indiana should end coal-burning at that site as soon as possible. Second, AES Indiana should engage in a proactive procurement of renewables to limit the harm of interconnection and other delays toward achieving the lowest-cost, lowest-risk plan for customers. Third, AES Indiana should continue to evaluate and take advantage of the benefits that the Inflation Reduction Act can provide to AES Indiana and its customers.

I. The Costs And Risks of Burning Coal at Petersburg Exceed the Benefits, And AES Indiana Should End Coal-Burning Operations No Later Than 2025.

AES Indiana's current plan to stop burning coal at Petersburg Units 3 and 4 by 2025 is a good one for customers and the environment. In addition to the negative climate, air quality, and water impacts that come from burning coal, coal is an increasingly risky and expensive fuel source. We urge AES to fully commit to this 2025 deadline and begin work to transition the units off coal-

burning as soon as possible. We make this appeal, even in light of the Company's stated plan to transition off coal, because failure to act quickly to procure replacement resources can result in delayed retirement, as we have seen for some coal units in Indiana and across the country. These delays expose customers to additional risk from fuel and energy market exposure. Ending coal-burning operations at Petersburg in 2025 is the best option for AES Indiana and its customers. The Company should proactively procure sufficient replacement resources to achieve cessation of coal-burning as scheduled.

Environmental requirements will increase the cost of burning coal at Petersburg. U.S. EPA's March 2023 Good Neighbor Plan final rule to reduce cross-state ground-level ozone will significantly increase the cost of burning coal at Petersburg. For ozone season 2025, U.S. EPA has allocated nitrogen oxide ("NOx") emissions allowances for Petersburg units 3 and 4 of 481 and 501 tons, respectively, which is significantly lower than 2021 actual ozone-season emissions, which were 638 and 1,185 tons, respectively.¹ To operate Petersburg units 3 and 4 through ozone season 2025, AES Indiana would likely have to buy costly NOx allowances. While U.S. EPA has not yet calculated NOx allowances for ozone seasons after 2025, the Petersburg NOx allowances will decline each year along with Indiana's overall state allocation up till the rule is fully implemented in 2029.² Specifically, Indiana's allocation decreases by roughly half from 2025 (11,413 tons) to 2029 (5,808 tons).³ The specific price for NOx allowances in future years is not known of course, but they are expected to be more expensive than recent-year NOx allowances as U.S. EPA seeks to reduce the public health harms caused by ground-level ozone. As AES Indiana witness David Jackson has explained in the Company's fuel docket, the cost of these allowances has already been impacting Petersburg operations:

Seasonal NOx pricing saw a dramatic increase and impacted power pricing for the three months of the historical FAC period. Seasonal NOx prices began the year near \$3,300/ton and increased to \$30,000/ton to start the Seasonal NOx period (May through September). Seasonal NOx pricing continued higher during the historical FAC period approaching \$40,000/ton. This increases the cost of generation significantly in units without NOx removal equipment and was a factor in higher power prices.⁴

These costs will increase now that a more stringent cross-state ozone rule has been made final by U.S. EPA. If we assume that NOx allowances cost \$40,000/ton—they will likely be higher

¹ See U.S. EPA, "Unit-level Allocations and Underlying Data For The Final Rule," *Underlying Data on FIP tab, lines 357, 358*, available at: <https://www.epa.gov/csapr/good-neighbor-plan-2015-ozone-naaqs>

² See U.S. EPA, *State Budgets Under the Good Neighbor Plan for the 2015 Ozone NAAQS*, available at: <https://www.epa.gov/csapr/state-budgets-under-good-neighbor-plan-2015-ozone-naaqs>

³ *Id.*

⁴ IURC Cause No. 38703, FAC 137, Direct Testimony of David Jackson on Behalf of AES Indiana, prefiled on Sept. 16, 2022, p. 22.

because the Good Neighbor Plan is more stringent than existing requirements—then AES Indiana would have to spend \$27 million on NO_x allowances simply to operate Petersburg Unit 4 for the 2025 ozone season. The cost in subsequent ozone seasons would be higher, as AES Indiana’s Petersburg allowances are reduced.

Furthermore, U.S. EPA’s currently pending review of Indiana’s Regional Haze plan could impose NO_x, sulfur dioxide, and particulate matter reductions at Petersburg, and other Indiana coal plants. Such a federal rule would increase the cost to operate Petersburg. Moreover, AES Indiana has repeatedly violated limits in its existing surface water discharge permit,⁵ and IDEM or U.S. EPA could take action to improve water quality in the White River and that would impose further costs on Petersburg.

Coal-burning units, including Petersburg, are increasingly unreliable. Unlike some other Indiana utilities, AES Indiana transparently reports its forced outages in its fuel dockets at the IURC. In recent years, that reporting has shown increasing outages at Petersburg. For example, during the three-month period from November 2021 to January 2022, Petersburg Unit 3 was unavailable for 33% of hours due to mechanical failures.⁶ Outages at other coal-burning units demonstrate the trend as well. CenterPoint Indiana recently experienced a forced outage at its Culley Unit 3. The unit’s boiler feed pump turbine failed in June 2022, and it had been offline till March 12, 2023 when the unit came back online, broke down again and had to be taken offline, and then resumed service (at least for now) on March 14, 2023.⁷ CenterPoint has stated that its best repair option was to procure a replacement part from a retired coal plant in Montana.⁸ The fact that manufacturers no longer make at least some coal-unit components highlights the reality that coal plants are generally old resources that are becoming more difficult to repair as they age. This inability to repair, combined by frequent breakdowns, places risk on customers. Petersburg Unit 3 came online in 1977, just four years after F. B. Culley 3,⁹ and Petersburg Unit 4 came online in 1986.¹⁰

⁵ See “IPL’s Petersburg Plant Is the Worst Polluter In the State, Violates Permit 120 times,” *Indy Star*, June 8, 2020, available at: <https://www.indystar.com/story/news/environment/2020/06/08/ipl-petersburg-plant-faces-fine-more-than-100-permit-violations-idem-water-pollution/5261937002/>

⁶ IURC Cause No. 38703, FAC 135, Direct Testimony of David Jackson on Behalf of AES Indiana, pre-filed on March 17, 2022, p. 25.

⁷ IURC Cause No. 38708, FAC 137 S1, Direct Testimony of F. Shane Bradford on behalf of CEIS, pre-filed on March 29, 2023, p. 8.

⁸ IURC Cause No. 38708 FAC 137, Direct Testimony of Wayne D. Games, page 19.

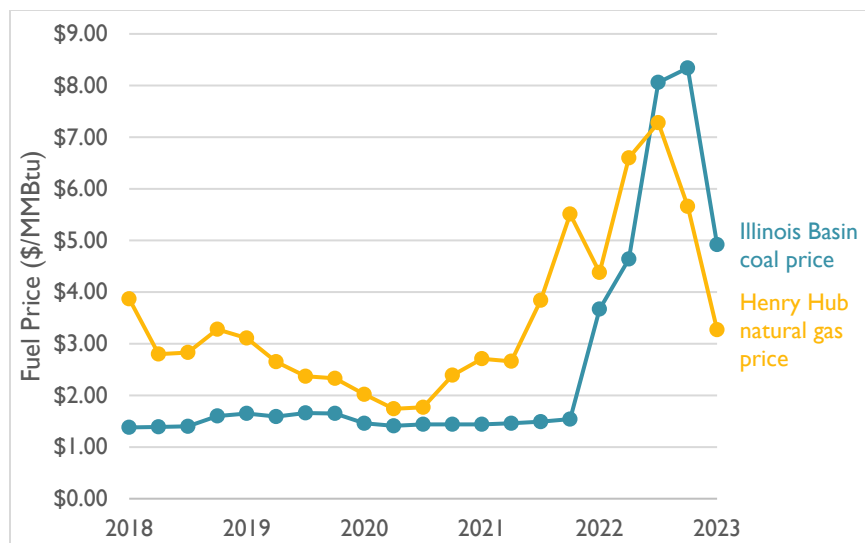
⁹ CenterPoint Energy. 2022. *IRP Public Stakeholder Meeting*. August 18. Slide 73.

¹⁰ AES Indiana. 2022 *Integrated Resource Plan: Public Advisory Meeting #1*. January 1, 2022. Slide 35.

In addition to equipment failures, coal plants are susceptible to forced outages caused by external factors, including fuel supply delays or shortages. Indiana utilities have had difficulties with coal deliveries in recently years, including CenterPoint Indiana and Duke Energy Indiana. In Arizona, Tucson Electric Power (“TEP”) had to derate two of its coal plants in 2022 because of fuel shortages caused by mine disruptions and railroad labor shortages. At the Springerville coal plant, the rail company responsible for coal delivery failed to meet its obligations because of labor shortages.¹¹ The problem was severe enough that TEP derated both Springerville units starting in June 2022 and brought Unit 1 fully offline during October 2022 to conserve its coal inventory.

Coal plants, including those that rely on Illinois Basin coal like Petersburg, expose ratepayers to risk from fuel price volatility. In 2022, coal prices rose dramatically in several regions of the United States,¹² including the Illinois Basin, where AES Indiana sources its coal (Figure 1).¹³ While prices have started to decline, the spike in 2022 is notable because it marks the beginning of a new era in the nation’s energy supply; the coal industry will continue to contract as the U.S. decarbonizes, and coal price volatility will likely become the norm.

Figure 1: Coal and natural gas spot prices, 2018 – 2023. Prices rose sharply in 2022 and will likely continue to be volatile in the future.



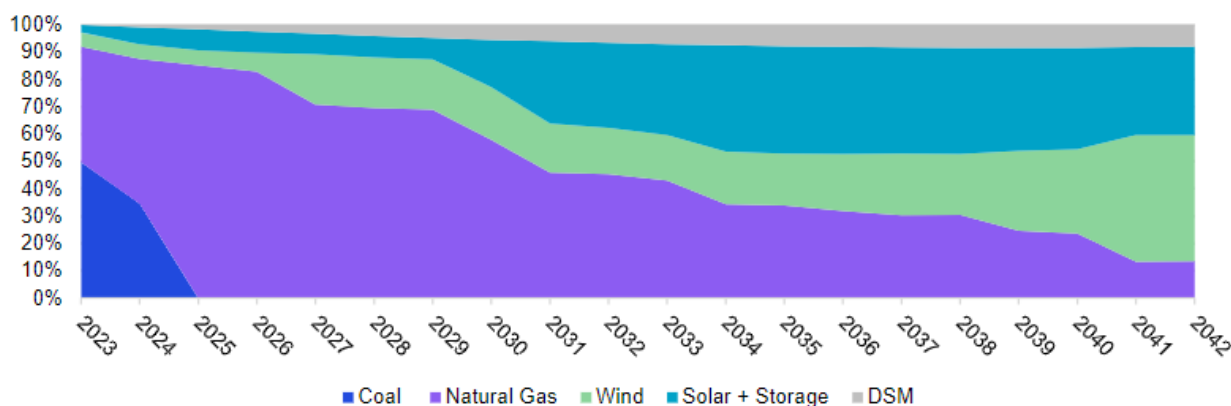
¹¹ Arizona Corporation Commission Docket No. E-01933A-22-0107. Direct Testimony of Devi Glick. TEP supplemental response to Staff 5.04.

¹² U.S. Energy Information Administration. 2023. *Coal Markets Archive*. Available at: <https://www.eia.gov/coal/markets/>

¹³ U.S. Energy Information Administration. 2023. *Form EIA-923 detailed data with previous form data*. Available at: <https://www.eia.gov/electricity/data/eia923/>

AES’s short-term action plan involves converting Petersburg Units 3 and 4 to gas in 2025. We note that while removing coal capacity is a major step forward, AES still plans to rely heavily on natural gas (Figure 2), which creates risks of its own. In particular, AES Indiana will be vulnerable to fluctuations in natural gas prices, which were also at their highest level in a decade in 2022 (Figure 1).¹⁴ Once AES Indiana converts Petersburg Units 3 and 4 to gas, the Company should be careful to adhere to its plan to operate the plant as a capacity resource, not an energy resource, and would be prudent to commit the units economically into the MISO system (as it has generally done with Petersburg’s coal units in recently years). AES Indiana should also strive to procure renewables as quickly as possible, as explained below, to reduce its reliance on volatile gas prices.

Figure 2: Energy mix by resource type under the Petersburg Conversion strategy from the 2022 IRP. Natural gas provides a large fraction of total annual generation throughout the study period.



II. AES Indiana Should Engage in Proactive Procurement of Renewables to Limit the Harm of Interconnection and Other Delays Toward Achieving the Lowest-Cost, Lowest-Risk Plan for Customers.

Solar and wind provide low-cost energy, but siting and constructing these resources takes time, especially with supply chain challenges. As a result, just-in-time resource planning is inadequate to meet the needs of ratepayers now, and may become even more so over the next decade. To adapt to changing paradigms in the power sector—including broad-scale decarbonization—AES should recognize the energy value of renewables and push to bring renewables online on a rolling basis and whenever they are economically available, rather than trying to align resource additions perfectly with capacity needs. Early renewable procurement will ensure that AES has a back-up if an existing resource fails or new ones are delayed, will help AES keeps pace with national policy development, and will give the Company an opportunity to learn how to manage

¹⁴ U.S. Energy Information Administration. 2022. *Henry Hub Natural Gas Spot Price*. Available at: <https://www.eia.gov/dnav/ng/hist/rngwhhdm.htm>

a system with high levels of renewables while there are still some fossil resources online, providing capacity services.

Proactive renewable procurement is especially important given the delays that existing renewable projects throughout Indiana are facing, including some projects planned by AES Indiana. Specifically, AES Indiana recently requested an amendment to the CPCN for a 250 MW paired solar and storage project that would push the in-service date back from May 2024 to December 2025.¹⁵ Other utilities are experiencing similar delays. CenterPoint Indiana recently requested modifications to its Warrick, Vermillion, and Posey solar PPAs to account for delays and supply chain issues.¹⁶ Starting to site renewables now is important so that this type of delay does not harm customers by forcing them to pay for additional fossil generation, gas conversions, costly NOx emissions allowances, or capacity purchases to make up for shortfalls when existing resources fail or new projects are delayed. Once constructed, solar, wind, and storage resources have zero fuel costs, so they shield customers from the fuel price volatility inherent with reliance on fossil resources.

We appreciate that AES Indiana is attempting to be proactive in the face of project delays. In its IRP, the Company notes that although the Short Term Action Plan covers 2023 through 2025, AES intends to pursue all resources that the model selected through 2027, to account for the challenges of procuring replacement capacity under current market conditions.¹⁷ AES Indiana will need to make good on this commitment by acting decisively to procure the full 1,305 MW of renewables that are cost-effective using low replacement resource costs,¹⁸ as well as additional capacity as it becomes available.

III. AES Should Continue to Evaluate and Take Advantage of the Benefits That the Inflation Reduction Act Can Provide to AES Indiana and its Customers.

AES Indiana should take full advantage of the Inflation Reduction Act (“IRA”) tax credits in future procurements of renewables and battery storage, and explore what other opportunities and incentives the IRA offers for its ratepayers. In addition to generous base credits, many sites within Indiana will be eligible for bonus tax credits from the energy community 10% adder, including all of Pike County where Petersburg is located. While guidance from the Treasury Department is forthcoming about which areas will qualify as energy communities, the text of the IRA is clear that all census tracts in which a coal-fired electric generating unit retired after December 31, 2009—and all census tracts adjacent to a tract where such a coal-fired unit

¹⁵ IURC Cause No. 45832, Direct Testimony of G. Aaron Cooper on Behalf of AES Indiana, page 4.

¹⁶ IURC Cause No. 45839, Direct Testimony of Richard C. Leger on behalf of CEIS, pages 7-12.

¹⁷ AES Indiana. 2022. *2022 Integrated Resource Plan: Volume 1*, page 256.

¹⁸ *Id.*, page 257.

retired—will be eligible.¹⁹ This means that many parts of Indiana, including the tracts containing and surrounding the Harding Street and Petersburg sites, are guaranteed to be eligible.²⁰ Other parts of Indiana will qualify for his 10% adder based on coal mine closures and a higher-than average unemployment rate combined with some history of employment in a fossil fuel industry. Furthermore, there is a 20% adder for solar projects located in a low-income community, as defined in the IRA.²¹ AES should keep a careful eye on these incentives and opportunities that the IRA tax credits creates for AES to procure low-cost renewables and storage, even in the current market with supply chain disruptions and inflationary pressures.

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If you have any questions or would otherwise like to discuss this letter, please do not hesitate to contact us. Thank you for your consideration.

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¹⁹ Raimi, D and Pesek, S. 2022. *What Is An “Energy Community”?* *Alternative Approaches for Geographically Targeted Energy Policy*. Resources for the Future. Report 22-12.

²⁰ AES Indiana. 2022. *2022 Integrated Resource Plan: Volume 1*. Page 90. In 2016, 260 MW of coal capacity retired at Eagle Valley and 630 MW of coal capacity refueled to natural gas at Harding Street. Petersburg Unit 1 retired in 2021.

²¹ Inflation Reduction Act, Sec. 13103.

