May 16, 2022

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 Duke Energy Indiana's 2021 Integrated Resource Plan

Dear Dr. Borum:

On behalf of Sierra Club and our more than 10,000 Indiana members, including those who are Duke Energy Indiana ("Duke") electric customers, we submit these comments regarding Duke's 2021 Integrated Resource Plan. Duke's 2021 IRP suffers from serious flaws. Our main findings and recommendations are summarized here and described more fully below.

Findings

1. Duke Energy Indiana engaged stakeholders throughout its IRP process, but ultimately did not give stakeholders access to its modeling files until shortly before the modeling was completed and did not incorporate feedback in its modeling results.

2. Duke relied on many concerning assumptions in its modeling that systematically skewed its results in favor of continued reliance on fossil resources, and away from a transition to renewables.

3. Duke's selection of a 1200 MW CC as part of its preferred plan is not supported by robust modeling, evaluation of current market conditions, and adequate risk analysis.

4. Duke's decision to continue operating Edwardsport on coal through at least 2034 will likely cost Indiana ratepayers millions of dollars in excess fuel costs and even more in total plant investments.

5. Duke's conclusion that renewables are not economic until the 2030s is misaligned with market trends and actions by other neighboring utilities, and is concerning for Duke's ratepayers.

Recommendations

1. Duke should remove the 1200 MW CC in 2027 from its preferred plan, as its costs and risks outweigh the benefits, and Duke's IRP modeling does not support its selection.

2. Duke should plan to convert Edwardsport to operate on gas and retire the coal assets at the plant.

3. Duke should update its modeling to reflect higher, and more realistic, costs for new gas resources, and lower and more realistic costs for renewables.

4. Duke should conduct an All-Source RFP at the beginning of the IRP process, to inform its modeling and resource selection, rather than after it has decided which resource types to procure.

5. Duke should provide modeling files to stakeholders in a time frame sufficient for stakeholders to actually review and provide meaningful input prior to Duke finalizing its modeling results.

I. Duke's Stakeholder Process

We appreciate Duke Energy Indiana's efforts to engage stakeholders throughout the IRP process. We recognize that the Company held many stakeholder meetings and demonstrated a willingness to schedule multiple individual calls with the stakeholders. However, we are concerned that the process was performative, and ultimately the Company did not appear to incorporate stakeholder feedback into the selection of its preferred portfolio.

The Company did not provide modeling files and information in a timely fashion, despite the engagement of multiple stakeholders with the ability to review the files and provide detailed and meaningful feedback. While Duke did provide some interim modeling files for its MISO market runs early in the process, it didn't provide the modeling files for its system until late September 2021, shortly before the Company finalized its modeling and selected a preferred portfolio in November 2021.

The Stakeholder scenario process was also not designed to elicit robust, alternative portfolios. Instead, it delivered to the Company a slew of alternative portfolios that were artificially more expensive than its preferred portfolio, further supporting its selection of its preferred portfolio. Stakeholders needed the ability to control not just the resources selected, but also the inputs underlying the resource selection, including cost and operational assumptions. To properly develop alternative stakeholder portfolios, the Company would have had to also develop alternative baseline portfolios that reflected updated resource assumptions. And the Company needed to provide time sufficient for stakeholders to review the Company's modeling of their proposed portfolios. Instead, the Company's modeling files were not made available to stakeholders until after stakeholder scenarios were due in September 2021. This made it impossible for stakeholders to have time to submit meaningful scenarios to the Company, review the assumptions and outputs, and iterate prior to the Company's presentation of the stakeholder scenarios in November 2021.

II. Duke's Modeling process and assumptions

Duke's modeling assumptions systematically skewed its modeling results in favor of continued reliance on gas and coal.

Low capital costs for new gas resources: Duke relied on Burns & McDonnell for its capital cost projections for new fossil resources. The Company's cost assumptions for new gas resources (CTs and CCs) are lower than other industry sources (specifically National Renewable Energy Laboratory (NREL) Annual Technology Baseline (ATB), and Energy Information Administration (EIA) Annual Energy Outlook (AEO) report). By under-projecting how low the cost will be for new gas resources Duke is advantaging these new gas resources over renewables in its resource selection process. This is concerning because the cost assumptions that the company uses in its modeling do not have to match the costs that it ultimately pays for a resource. So, Duke may model new gas resources with an aggressively low capital cost, use that as justification to support moving forward with a new combined cycle plant, but ultimately the cost it actually pays for the resource will be based on the costs that developers bid, not the cost it modeled in its IRP.

Higher capital costs for renewables and battery storage: Duke relied on Guidehouse for renewable cost projections. Consistent with Duke's skewing of new gas cost projections, the Company's cost assumptions for new renewable resources were higher than other industry sources (once again NREL, ATB, and EIA's AEO), which disadvantaged renewables relative to new gas resources in its modeling. This is also concerning because it means the Company will delay pursuing and deploying new renewable resources.

ELCC assumptions for renewables: The firm capacity credit that Duke awards to solar and wind through the effective load carrying capacity (ELCC) metric are lower than MISO's ELCC. The impact of this decision is evident in the Company's ELCC sensitivity run, where coal

retirements are accelerated relative to the base scenario with lower ELCCs. Duke has not justified this decision and should not be relying on overly conservative assumptions that deviate from the values MISO is projecting.

Duke's use of an RFI and not RFP process: Duke should have done an all-source request for proposals (RFP) at the beginning of the process and used the results to inform its IRP modeling and analysis. Instead, the Company issued a non-binding request for information (RFI). Without a commitment to procure any new resources, there was no incentive for developers to respond with competitive bids. This means the Company's modeling was based on industry standard data rather than data from actual projects that it could build.

III. Duke's Conclusions and proposed plan

On September 10, 2021, Duke Energy Indiana presented its preliminary modeling results to stakeholders and included the finding "Economics favor renewables in mid-2030s" in its workshop deck. The assertion that renewables are not competitive until the 2030s is concerning and misaligned with market and industry trends and resource plans put forth by other utilities, including the Northern Indiana Public Service Company (NIPSCO), a neighboring utility in Indiana. Duke reached this conclusion by relying on input cost and operational assumptions that systematically favor continued reliance on fossil resources and disadvantage a switch to renewables and battery storage resources.

In November 2021, when Duke Energy Indiana released its preferred portfolio, we were disappointed, but not surprised, to see a fossil-heavy portfolio. The resource decisions that Sierra Club is most concerned about are (1) Duke's proposal to build a new combined cycle power plant to replace Cayuga Units 1-2 in 2028; (2) Duke's decision to continue to operate Edwardsport on coal; (3) Duke's low level of investment in renewables and slow ramp up in battery storage investment.

a. New Gas Plant

In Duke's preferred plan, the Company retires 1,005 MW of coal capacity at Cayuga Units 1-2 in 2026 and brings online 1,221 MW of new combined cycle gas capacity in 2027. The proposed new gas plant will operate beyond the end of the IRP study period (2040) and therefore poses a stranded asset risk to the Company and its ratepayers if the plant retires early.

There is no evidence that Duke evaluated the stranded asset risk of continued reliance on gas. And while the company did run a high gas price sensitivity, a high gas generation cost sensitivity, and a high CO2 price sensitivity, the Company did not evaluate the risk posed to its preferred portfolio by continued reliance on gas. In other words, Duke's modeling attempted to answer the question: *What is the lowest cost portfolio assuming a CO2 price is implemented / gas prices go up / gas generation costs are higher than projected?* While this is valuable for the

IRP process, it is equally important that the Company answer the question: *What is the cost and risk posed to ratepayers if the Company moves forward with the preferred portfolio and then a CO2 price is implemented / gas prices go up / gas generation costs are higher than projected?*

By answering only the first set of questions, Duke is failing to assess the risk its preferred portfolio is subjecting ratepayers to related to fuel price volatility, CO2 prices, or other market forces that could make continued reliance on a gas plant more costly. The cost to ratepayers and impact of high gas price volatility could be a lot different if the system is designed to anticipate this risk rather than ignore it.

It is also not clear that a new combined cycle plant was ever tested for economics. Cayuga currently provides steam to an industrial customer, International Paper. But it is not reasonable for the Company to build a new gas plant, and for ratepayers to subsidize its operation, just to ensure that steam service can be provided to a multi-billion dollar international corporation. In the past, Duke had to keep one of the Cayuga units online at all times to ensure steam was provided to the steam customer. If that same requirement is maintained beyond Cayuga's retirement, that means that Duke is planning for the new gas plant to be online at all times to serve the steam customer.

This also means that Duke did not ever actually consider an alternative portfolio to meet system needs after the retirement of Cayuga.

b. Edwardsport

In Duke's preferred plan, the Company plans to continue operating Edwardsport on coal until at least 2034. There is no evidence that the Company robustly evaluated the alternative of retiring the plant or switching it to operate on gas full time. This is extremely disappointing given that past analysis repeatedly found the plant regularly incurs negative energy margins when it operates on coal and can earn positive energy margins when it operates on gas.

All arguments the Company has made in the past in favor of maintaining the plant on coal are based on reasons outside of plant economics. These arguments are not totally without merit, but they do not warrant subjecting ratepayers to substantial unnecessary costs on a daily basis for another decade and a half at least.

Additionally, although it is not included in the Company's preferred plan, the Company did model a stakeholder scenario in which Duke installed carbon sequestration and storage (CSS) technology at Edwardsport. The Edwardsport plant is already expensive and uneconomic to operate. Further, the bets that the Company made on the IGCC technology have not paid off. Duke should not double-down on the plant or do anything else to increase the undepreciated balance of Edwardsport.

Instead, the Company should retire the coal assets at the plant, request the necessary air permits, and convert the plant to operate fully on gas. And regardless of whether Duke is operating the plant on coal or gas, it should only operate the plant, that is commit it into the market, when it is economic to do so.

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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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