September 22, 2022

Matt Rice, Director, Regulatory and Rates, CenterPoint Energy
211 Northwest Riverside Dr., Evansville, IN, 47708

Dear Mr. Rice,

**RE: Sierra Club recommendations in response to CenterPoint's first IRP meeting**

Thank you for reaching out to solicit our input in CenterPoint Energy's 2022/2023 IRP Process. Below are our suggestions in response to the public stakeholder meeting on August 18th.

**Locking in Coal Retirement Dates**

Sierra Club's priority is to secure commitments from CenterPoint for retirement dates by 2030 for all of the Company's coal plants during this IRP process.

***Culley Unit 2 and Warrick Unit 4***

From the August 18th stakeholder meeting, we understand that CenterPoint pushed back the retirement date of Culley Unit 2 by three years (from 2022 to 2025) as a result of the high capacity clearing prices for MISO Zone 6 in the 2022/2023 Planning Resource Auction (PRA). During the extra years of operation, CenterPoint asserts that Culley Unit 2 will be valuable for its capacity even though it will seldom be dispatched, and that continuing to operate Culley Unit 2 will avoid the need for CenterPoint to pay high costs for additional capacity in the market. The Company presents a similar argument about extending its contract with Alcoa for Warrick Unit 4. We are concerned that this is a superficial analysis, and request that CenterPoint address the following questions before extending the operating dates of either unit:

- Does the Company believe that the recent high-capacity prices in the 2022/2023 PRA are indicative of likely future trends?
- Does the Company plan to issue a request for proposal (RFP) to see if it could meet short-term capacity needs at lower costs to ratepayers?

- Has the Company evaluated the capital and operation and maintenance (O&M) costs required to maintain Culley Unit 2 and Warrick Unit 4 until 2025? If extensive repairs are needed, costs could easily outweigh the capacity benefits of maintaining the plant.
- Will the Company commit to a cap on total funds that may be used for repairs and upgrades at its coal plants, especially the ones with near-term retirement dates?
- What actions is the Company taking to replace the coal capacity from these two units' capacity after the eventual closure of Culley Unit 2 and the end of its contract with Warrick Unit 4 to ensure there are no further delays in the units' retirements dates?

***Culley Unit 3***

We also request that CenterPoint commit to retiring Culley Unit 3 by no later than 2030, given recent developments in federal energy policy, including the Inflation Reduction Act (IRA), and the rapidly escalating costs of environmental compliance for CenterPoint's coal plants.

The price of NOx allowances under the Cross-State Air Pollution Rule (CSAPR) increased by a factor of 685 between 2020 and 2022, and allowance purchases will cost CenterPoint $22.5 million dollars this year, even as the Company runs its remaining coal units as cleanly as possible. The NOx emissions limits established by CSAPR will continue to tighten in future years, further driving up allowance prices. Because coal combustion is one of the most pollution-intensive methods for generating electricity, future environmental regulations, including regulation of greenhouse gas emissions, are likely to make Culley Unit 3 even more uneconomic.

And as the cost to operate Culley Unit 3 continues to rise, the cost of replacement resources are expected to fall. This is especially true after the enactment of the Inflation Reduction Act (IRA) in August. This will further erode the economics of maintaining Culley Unit 3 such that retirement by 2030, even with the effluent limitation guidelines upgrade costs already spent and sunk, will be the most economic course of action.

**Revisiting Decision to Construct Natural Gas Plants**

We also urge CenterPoint to reevaluate its plan to build two natural gas combustion turbine plants (CTs). Although CenterPoint has received Commission approval to construct the CTs (but it has not yet received approval for the pipeline needed to fuel them), it is under no obligation to construct them. Conversely, CenterPoint *does* have an obligation to its customers to re-evaluate the reasonableness of a project if market conditions change substantially. While changes in policy and market conditions occur regularly, and there is likely to always be some level of policy change or uncertainty during any resource planning process, the IRA is unique in the

magnitude of its impact on renewable costs and the landscape of electricity utility resource planning as shown in Table 1 below.

*Table 1: Renewable tax credits available to CenterPoint before and after IRA. Credits are now significantly larger, increasing the cost-competitiveness of renewables relative to coal and gas.*

| | **CenterPoint 2019/2020 IRP tax credit assumptions[1]** | **Current IRA tax credits[2]** |
|---|---|---|
| **Solar PV** | ITC:<br>2019: 30%<br>2020: 26%<br>2021: 23%<br>After 2022: 10% | ITC: 30% base<br>PTC: 2.5 cents/kWh<br>100% |
| **Wind** | PTC: 2.5 cents/kWh (in $2017)<br>Stepping down…<br>2019: 40%<br>2020: 60%<br>After 2021: 0% | PTC: 2.5 cents/kWh<br>100% |
| **Battery Storage** | - | ITC: 30% |

Source: 2019/2020 IRP pages 175-177.

Note 1: Tax credits here reflect those included in the 2019 IRP. Tax credits were subsequently extended through 2025 after the IRP and prior to the IRA.
Note 2: 30% ITC and 2.5 cents/kWh PTC are all the base. Companies can get an extra 10% for siting in an energy community, and another 10% for use of domestic products

Revisiting the decision to construct the CTs is also especially important given the enormous cost and the risks the project places on ratepayers. These risks include the project's large capital cost, which poses a stranded asset risk if the plant becomes uneconomic before it is fully depreciated, the cost of the gas pipeline, and the cost of fuel, which is highly volatile.

Even before the IRA, CenterPoint's justification for the CTs was incomplete at best. The Company's own modeling from its 2019/2020 IRP — despite using unrealistically high renewables costs and low gas prices — showed that a portfolio with no CTs was lower cost than a portfolio that included two CTs (the High Technology Portfolio) in three out of five future scenarios. In all IRP scenarios, the portfolio with one CT was lower cost than the portfolio with two CTs. In four out of five scenarios, the second CT almost never operated, indicating that it is not needed for reliability and is at high risk of becoming a stranded asset.

As discussed above, the cost of NOx allowances has escalated rapidly since the 2019/2020 IRP was conducted. If 2022 prices continue, the net present value of allowances to balance emissions from the two turbines through 2039 ranges from $2.1 million to $46.8 million (depending on the capacity factor of the plants in each scenario). These costs further reduce the economic viability of the plants.

It makes sense that CTs do not appear as the lowest cost option in CenterPoint's modeling, because the availability of energy storage technologies renders them largely obsolete. This was true during the 2019/2020 IRP process and is even more true now. Operationally, battery storage is better suited to serving reliability needs and facilitating the expansion of renewables, because batteries respond to dispatch signals more quickly than CTs and can charge during periods of high renewable availability, reducing the need for curtailment. Now that battery storage is eligible for the investment tax credit (ITC), its capital costs are 30-50% lower than when CenterPoint performed its original analysis, further increasing its advantage over the costly combustion turbines and gas pipeline. Table 2 summarizes the cost of renewable generation (in 2022$) to CenterPoint before and after the IRA, assuming PPA financing for the ITC (and that the tax credit is not normalized over the life of the plant). The current costs would be even lower for projects eligible for tax credit adders under the IRA. We find that project NPVs are expected to fall around 25% for battery storage, 21-22% for solar PV, and 28-38% for wind, depending on capacity factor.

*Table 2: Percent reduction in CenterPoint renewable project relative to the 2019/2020 IRP*

| | **NPV (2025-2054) before IRA** | **NPV (2025-2054) after IRA** | **IRA tax credit claimed** | **Percent Reduction** |
|---|---|---|---|---|
| **Lithium ion battery (50 MW)*** | $99 million NPV | $74 million NPV | Base ITC | 25% |
| **Solar photovoltaic (100 MW)** | $177 million NPV | $139 million NPV | Base PTC<br>30% ITC | 21.6% for PTC<br>21.1% for ITC |
| **Wind in northern Indiana (38% CF) (200 MW)** | $476 million NPV | $297 million NPV | Base PTC | 38% |
| **Wind in southern Indiana (28% CF) (200 MW)** | $476 million NPV | $344 million NPV | Base PTC | 28% |

Source: Calculated from CenterPoint cost parameters provided in the Direct Testimonies of Matthew Rice and Michael Goggin in Indiana Utility Regulatory Commission Cause No. 45564
*Note: Battery storage NPV excludes VOM costs

Because CenterPoint will already be conducting EnCompass modeling as part of its IRP process, it would require minimal extra effort for the Company to include an unconstrained run evaluating the cost of the proposed CTs relative to replacement resources under current cost conditions. During the August 18th Stakeholder meeting, CenterPoint indicated that it would re-run its modeling to find the next optimal resources in the event that the gas pipeline wasn't approved by FERC. We repeat the question we posed at the meeting – why wait to perform the analysis if it could just be done proactively, and incorporate the updated renewable costs that resulted from the extension of the production tax credit (PTC) and ITC in the IRA?

**Improving Modeling of Renewables and Climate Policies**

With renewable costs lower than ever and the U.S. committed to a 50 percent reduction in greenhouse gas emissions by 2030, CenterPoint should use this IRP as an opportunity to explore a rapid buildout of renewable energy resources. The RFP lays the foundation for this effort, and CenterPoint should request that developers refresh their bids in light of the new tax credits available under the IRA. CenterPoint should also release the results of its RFP to stakeholders who have signed nondisclosure agreements (NDA).

***Representing renewables in the IRP modeling***

CenterPoint requested feedback on how to represent renewables in the IRP EnCompass modeling. We agree with the Company's plan to use RFP results to model resource cost assumptions in the near-term (provided the bids are refreshed based on the IRA impacts). For later years, CenterPoint should model generic resources, including both PPA and utility-owned projects based on transparent industry standard projections such as those provided by NREL, EIA or Lazard. Updating tax credit assumptions to match the IRA will be crucial to obtaining accurate results; this includes modeling solar and wind as eligible for either the PTC or ITC, and storage as eligible for the ITC, and modeling the incremental 10% adder for resources located in energy communities. The Company should clearly outline the assumptions that it makes regarding bonus credits related to wages, domestic content, and similar criteria. All calculations should be transparent, and CenterPoint should provide workbooks to stakeholders.

***Carbon regulation***

Regarding assumptions about carbon regulation in the IRP modeling, we are concerned with the Company's decision to use the Affordable Clean Energy (ACE) rule as the reference assumption for policy under Clean Air Act Section 111(d). Even after *West Virginia v. EPA*, the EPA has

multiple possible avenues for establishing ambitious emissions limits for existing power plants under 111(d). ACE was a notoriously weak rule developed by a presidential administration that was hostile to climate policy, and it does not align with CenterPoint's stated commitment to align its operations with the Paris Agreement. The current administration is committed to emissions reductions, including a goal of 100 percent clean electricity by 2035, making it very likely that forthcoming power sector regulations will be stronger than ACE. To accurately represent this regulatory environment, CenterPoint should adjust its baseline policy assumptions. Additionally, the reference scenario should include new energy costs established by the IRA, as well as renewable energy builds to which CenterPoint is already committed.

**Refining IRP Objectives and Evaluation Metrics**

We appreciate CenterPoint's request for feedback on the objectives that it plans to pursue in its IRP, and have several suggestions for refining the metrics used to assess these criteria:

***Affordability***

CenterPoint lists affordability as its first objective and proposes to assess it using 20-year net present value revenue requirement (NPVRR). We agree that affordability should be a central objective of the IRP process, but NPVRR is an incomplete way to measure this goal. Affordability depends on distributional impacts as well as total cost to ratepayers. But NPVRR measures only aggregate cost, potentially masking impacts on low-income customers and other vulnerable groups. Low-income energy efficiency programs, and rate designs that target specific demographics and focus on bills and not rate can be critical in addressing affordability. To fully grasp the affordability of its portfolio options, CenterPoint should develop a methodology for assessing the impacts on each customer class and type separately.

***Environmental sustainability***

Similarly, environmental sustainability is a crucial IRP objective, but carbon dioxide intensity is potentially a misleading way to quantify it. What matters from the perspective of climate change is the overall quantity of greenhouse gas emissions added to the atmosphere, which depends both on electricity emissions intensity and the amount of electricity consumed. CenterPoint should quantify tons of carbon dioxide emissions rather than focusing only on emissions intensity. (When relevant, emission from greenhouse gasses besides carbon dioxide should also be included in this total.)

***Reliability***

For reliability, it appears that CenterPoint is weighing ancillary services (spinning reserve/fast start) equally with overall resource adequacy. Unless CenterPoint has particular reason to think

that MISO ancillary service markets will be unable to provide sufficient ancillary services, UCAP obligations should be established as the primary reliability metric.

***Risk minimization***

Finally, we believe that the risk minimization objective should be expanded to include risks posed by fuel price volatility as well as market risk. Fossil fuel prices are inherently volatile, and portfolios that maintain reliance on natural gas and coal prolong customer exposure to price swings. CenterPoint should take this into account when comparing IRP portfolios.

**Emphasizing Community Impacts in IRP Planning**

Lastly, we encourage CenterPoint to expand its consideration of the community impacts of the portfolios it evaluates in the IRP. The CenterPoint electric service territory in Southwest Indiana is a sacrifice zone to polluting power, and while CenterPoint is not responsible for all of the emissions from the high concentration of coal-fired power plants in the region, its Brown, Culley and Warrick coal units are local contributors to air and water pollution. At the same time, CenterPoint customers are burdened with the highest electric bills in the state. CenterPoint should retire its fossil plants as soon as possible, rather than delaying retirement dates, and replace those units with affordable clean energy rather than more polluting, price-volatile fossil fuels. As the electric utility for the national hub of Super Polluters, CenterPoint could lead a clean energy transition in Southwest Indiana, and transform an energy sacrifice zone into a clean "energy community" utilizing incentives for coal communities in the IRA.


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