RELIABLE ENERGY'S COMMENTS ON
CENTERPOINT INDIANA'S
2025 INTEGRATED RESOURCE PLAN
April 2, 2026

I. INTRODUCTION AND SUMMARY

Reliable Energy, Inc. (REI) appreciates the opportunity to provide comments on CenterPoint Energy South's (CEI) IRP. While REI appreciates that improvements have been made in the 2025 IRP, there are several concerns that call into question the specifics of CEI's preferred course of action.

CEI correctly acknowledges the unprecedented number of uncertainties and the current high-cost environment. Both factors support a measured path forward that preserves options and allows CEI to make less risky decisions and realize possibly lower costs.

These comments address how the IRP addresses Indiana's five pillars, discusses the strengths and weaknesses of the IRP, and follows with REI's recommendations and concluding comments.

The framework that CEI used to evaluate portfolios and aid in decision making is a scorecard driven by the state's Five Pillars of electric utility service. This is appropriate at a high level, but not an effective analysis at a detailed level. Several of the specific metrics that CEI uses to address the pillars and assess risks are not meaningful. A more accurate view of these metrics and supporting analysis will make up the majority of REI's comments and recommendations. Specific recommendation regarding CEI' planning decisions and actions are provided.

<u>THE FIVE PILLARS</u>

Below is a discussion of how CEI's IRP addresses each of the five pillars.

1) **Affordability:** The Affordability metrics in the IRP's scorecard do not provide meaningful rate impacts for several reasons:

    a. CEI compares the net present value of revenue requirements (NPVRR) of the leading candidate portfolios over 20 years. The handful of lowest cost portfolios are only separated by a few percentage points. This implicitly assumes that each portfolio will not change over the next twenty years, which is almost certainly not going to be true. As a result, the conclusion that one portfolio is cheaper than another is not dispositive. Comparing multiple low likelihood metrics does not materially add to the generation decision-making process.

b. The use of the 5% and 95% confidence levels of each portfolio's NPVRR distribution results in the lack of differentiation noted above, and suffers more from the shortcomings of the stochastic analysis. In short, any simulation analysis is only as good as the assumptions are made and when those assumptions are faulty or unsubstantiated, the result provides little useful information.

c. The Energy Burden Metric is also problematic as it lacks context and introduces other variables such as forecasted income. Furthermore, it only shows cost increases above the high levels of inflation in the recent past, which sets an artificially biased baseline when evaluating rate impacts.

2) As REI has noted many times in its IRP comments, NPVRR is not a comprehensive measure of affordability and rate stability when it is not used alongside other analyses—such as rate impact analysis—to understand the immediate affordability of a proposed project to customers. While lower NPV is generally better, it does not show when the costs occur. NPVRR measures the total cost of a generation project, rather than the specific impact on an average customer's bill. A project with a low NPVRR might have high upfront costs, causing immediate rate shocks. Moreover, the inputs to the NPVRR can be manipulated for a particular predetermined result, which can obscure the true affordability of the project.

3) **Reliability:** CEI's reliability assessment is somewhat circular in its logic as the portfolios were developed with the constraint of meeting the MISO Reserve Margin Requirement. This may sound reasonable, however, then CEI later claims the portfolios results are reliable because they consistently met the MISO Reserve Margin Requirement when all portfolios met this requirement from the beginning. This adds no value to the comparison of the various portfolios. Not surprisingly, when CEI does look at unserved energy (which represents involuntary load shedding), which is an appropriate metric for reliability, the worst performing portfolio only has 119 MWh of "Total emergency unserved energy purchased from 2026 to 2045". A portfolio of CEI's size with only 119 MWh of unserved energy over 20 years is vastly more reliable than the industry standard of one day of outage in 10 years. There is no meaningful distinction among the group of portfolios--all of which greatly exceed the industry standard. One could argue that either these portfolios are overbuilt to achieve such levels of reliability, or that the analysis to determine the 119 MWh is not valid.

4) **Resiliency:** CEI rightly references generation diversity, fast start generation and spinning reserve MWs as being relevant to system resiliency, but is light on showing how each portfolio can come back up to full generating capacity and restore service in a reasonable time period.

5) **Stability:** The detailed analysis that CEI carried out should be commended in its rigor and addressing a difficult to discuss topic.

6) **Environmental Sustainability:** CEI takes a reasonable approach to measuring environmental sustainability through the measured carbon dioxide equivalent (CO_2e), sulfur dioxide (SO_2), and nitrous oxide (Nox) emissions. However, CEI should compare differences in CO_2 emissions for each portfolio relative to the differences in the net present value (NPV) calculations and in doing so, show an avoided cost per ton emitted. The same exercise could be done for sulfur and nitrogen compounds. This analysis is essential for quantifying the "greenium" (green premium) or true cost of decarbonization by balancing a reduction in carbon emissions in the portfolio against the cost to achieve those reductions.

   CEI also does not calculate Scope 3 emissions, which fails to accurately represent the true cost of its net zero environmental goals. Scope 3 emissions are greenhouse gas emissions related to generation that are not inside the fence, i.e., the power plant. For utilities, Scope 3 emissions, which are significant for natural gas, are related to the production and transport of that fuel.

IRP STRENGTHS

1) **Rate stability and affordability**. It is important to recognize that CEI specifically states that rate stability and affordability are important goals of the IRP. This seemingly obvious goal should be articulated in all utilities' IRPs with plans that satisfactorily achieve this goal.

2) **Uncertainties.** CEI commendably states upfront that the number of uncertainties at the time of the IRP are unprecedented and performs analysis to better assess each of these uncertainties. However, the analysis falls short in specifically addressing the risks and relevant metrics reliance on the problematic stochastic analysis noted below.

3) **Transmission and Distribution (T&D) modeling:** CEI should be commended for the T&D modeling that it undertook, which is a meaningful step toward addressing the intent of the resiliency and stability pillars. Transmission is becoming an increasingly binding constraint on the energy transition, and CEI addresses this with specific analysis as well as using that analysis to inform its generation planning (i.e., limiting purchases by the import limit into its service territory).

4) **Decision-focused analysis**: CEI wisely supplements the traditional IRP scenario analysis performed by utilities with additional decision-focused scenarios. In general terms, an IRP is less of a year-by-year generation plan, than a set and sequence of decisions that a company is likely to face, often well before an actual

generator is connected to the grid. By adding more specific analysis that sheds light on the nearer term and significant long-term decisions, CEI adds rigor and substance to its analysis.

IRP METHODOLOGY ISSUES

1) **The Energy Burden Metric** is problematic as it lacks context) and introduces other variables such as forecasted income that somewhat mask actual changes in rates.

2) **The Stochastics analysis** contains several issues that do not add to the decision-making process and can incorrectly confer information that is not a fair representation of the future. For example:

   a. CEI describes its reference case fuel forecasts as a consensus approach when it is simply an average of different forecasts. Consensus, by definition, implies a level of agreement, but instead, CEI uses the differences in those same forecasts in determining the respective standard deviation for the simulation runs. This approach makes little sense as the differences between forecasts do not reflect the range of actual prices. There are ample historical commodity data and options on futures data where one could calculate historical volatilities or implied volatilities to inform the analysis. This shortcoming alone seriously undermines the validity of the stochastic analysis.

   b. Additionally, CEI assumed 100% mean reversion in its simulation analysis. This is not reflective of reality and completely overlooks the possibility that a shift in market fundamentals could happen over the next 20 years. The result is that the range of modeled variables underestimating the variability/risk in the future.

   c. The simulation of market prices is also flawed. CEI adds an intermediate step in this process by simulating market heat rates that are then combined with simulated natural gas prices to come up with energy prices. In addition to the previously mentioned problems with the natural gas simulations, the use of the scenarios implicitly assumes that they represent the future in an unbiased way. As can been seen in Figure 2-2 on page 61 of Volume 1 of the IRP, the scenarios are biased in numerous dimensions (higher costs for commodities, generation and load being more common than the lower possibility) which would manifest into biases in the simulated power prices, i.e., there being more scenarios with higher fuel prices.

   d. Furthermore, this analysis fails to take into consideration that the underlying generation fleet will evolve differently as the variables change under each of the different iterations of the simulation. The failure to recognize this and hold the portfolio static makes the long-term usefulness of the simulated costs and market and purchase data meaningless.

e. Lastly, no basis is provided for the assumptions made in the CO2 and cost simulations. CEI arbitrarily assumes 150 iterations have no price on carbon (perhaps wishful thinking) and 50 iterations have a CO2 price from the High Regulatory scenario. Additionally, CEI assumes 50 low cost, 100 reference cost, and 50 high-cost assumptions for capital. Without any basis for the distribution that is imposed on these variables, the value accuracy of the simulations is further diminished.

2) **Energy Efficiency (EE):** It is unclear if the EE bundles were selected simultaneously with other resource selections in the model. If an EE resource (or any other resource type) is not evaluated at the same time as the other resources, it undermines the optimization process and does not give guidance on the amount of economic EE in the preferred portfolio.

It is also unclear if the avoided costs used in numerous cost effectiveness tests are adjusted for capacity accreditation differences between the avoided unit, EE, and Demand Response (DR). To the extent that the accreditation methodology values EE and DR with greater accreditation on a per MW basis when compared to a peaker plant in the avoided cost calculation, there is an inherent bias against EE and DR with the likely result that the amount of economic EE and DR is understated.

3) **Scenarios**: The collection of CEI's scenarios suffers by not addressing a key principle of good scenario analysis in the fact that by combining coal and gas into one fuel price, every scenario has coal and gas on the same relative pricing level. For example, only modeling future states when coal and gas prices are both high or both low provides minimal supplemental information. It is impossible to differentiate realities that we know occur when gas costs are high and coal costs are low, or vice versa. It is inconsistent that all scenarios move gas and coal forecasts together, but in the stochastic analysis, CEI describes these variables as only slightly positively correlated.

4) **Large load modeling:** CEI's assumptions demonstrate how much uncertainty exists with serving unprecedented large loads. The sensitivity analysis that varies several hundred MW increases in a single year is unrealistic and does not provide much meaningful information. The alternate load trajectory is more realistic in that it is spread over time, albeit the flat years in the late 2020s and in most of the 2030s seem to imply more precision in this analysis than really exists. The impact on generation decisions and rates as large loads develop warrants more modeling trajectories, so that when these trajectories are considered in combination, one can see any inflection point that could drive a major resource decision. This more robust analysis of large loads would create signposts that CEI could use to account for the lead time needed to build new generation and bring it online.

5) **Risks:** Unfortunately, much of CEI' risk analysis relies on the stochastic analysis whose shortcomings translate into an unreliable risk analysis of all of the portfolios.

Market purchase and sales data can represent risk. However, the way CEI uses this metric is too high level to be very useful. For example, consider a utility that has a high level of market purchases, but these are primarily economic by being a few dollars cheaper than its own generation fleet. This portfolio has much less risk than a portfolio that has the same number of market purchases that are $20/MWh less than its generation fleet. The same criticism can be made regarding market sales as well. Treating all market purchases and sales the same is overly simplistic and renders this metric of little value.

Six of the 12 portfolios have market sales that exceed purchases by 16-17%, which is well within the margin of error for the modeling of this tenor and provides little meaningful distinction between those portfolios. If fuel and power prices change, purchases, sales, generation, and total costs will change—yet the IRP does not provide any insight into this market dynamic.

6) CEI goes through considerable effort to develop a scorecard to compare the various portfolios, but when it comes time to justify a preferred portfolio, it is described as being due to "many factors". This is followed up with high level comments and fails to address any of the relative weight of each metric. This results in relatively subjective decision-making exercise. Several portfolios could also be justified using essentially the same narrative.

RECOMMENDATIONS

1. IRP PROCESS

REI maintains that its recommendations below for future IRPs will focus on better addressing the state's five pillars and analytical shortcomings of the 2025 IRP. Specifically, REI recommends:

a. **Affordability:** The utility should calculate and provide actual average monthly bill impacts by year from 2025, as well as the "all-in" forecast of monthly bills for the subsequent 10 years. This provides quality data about the cost of generation decisions, as well as an analysis of affordability that is more realistic by not allowing the inflation of the past years to dilute the future percentage increase in rates. Companies can provide this information as this analysis is already performed in their respective Financial Planning and Rate Case Planning processes.

b. **Reliability**: CEI should perform a reliability analysis using a robust model such as the Strategic Energy & Risk Valuation Model (SERVM) that would appropriately measure unserved energy. SERVM is a probabilistic software tool used by the industry to evaluate resource adequacy, simulate market operations, and analyze renewable integration. Modeling portfolios with and without the MISO market being available would be more valuable when comparing portfolios in terms of reliability and cost risk.

c. **Environmental Sustainability:** It would be instructive for companies to compare differences in Scope 1, 2, and 3 CO_2 emissions for each portfolio by the differences in NPVRR, and in doing so show an avoided cost per ton of CO_2 emitted. The same exercise could be done for sulfur and nitrogen compounds.

d. **Stochastic analysis** can be a value-added exercise provided it is conducted correctly and applied where relevant. Corrections of the issues identified in the previous section will help in both aspects.

e. **DSM modeling:** EE and DR bundles should be modeled concurrently with other resource options in the portfolio optimization process. Furthermore, the expected capacity accreditation methodology should be applied to the avoided unit so that EE and DR programs can compete on an unbiased basis.

f. **Scenario analysis:** The development of a suite of scenarios should follow sound analysis. This is done by looking at the range of the most significant variables and developing scenarios that cover the range and combinations of key variables. Only by doing so can an IRP comprehensively plan for the next 20 years or gain a better understanding of the various changes and trade-offs driven by the key variables. This is a shortcoming in the analysis that needs to be addressed before customers are asked to pay hundreds of millions of dollars for resources that have not been fully vetted.

g. **Large Load modeling:** CEI should develop several load forecast trajectories to better understand how the emergence of Data Center or other megaloads would drive changes in the resource plan. This could take the form of three different trajectories of 25 MW, 50 MW and 100 MW per year, to demonstrate the levels of load growth that would trigger resource changes that CEI could use to prepare for the issuance of an RFP for new generating resources.

h. **Market Interaction:** CEI should provide more detail on market purchases and sales in terms of volumes, average price and economic value added, compared to if the market was “turned off” and CEI had to make up that lost market generation with its own generation.

i. **Decision Making:** CEI should be more explicit in how it will use the metrics developed for the scorecard in its decision-making process. Sufficient levels of reliability, stability and resilience are minimum requirements for a portfolio. It would not be unreasonable to state for example, that affordability has a weight of 50%, environmental sustainability has a weight of 25% and risk also has a weight of 25%. This would be more transparent and provide more structure around discussion of a portfolio's merits.

2. **Short Term Action Plan**

CEI's short term action plan is reasonable as described in the IRP, but the analysis of the Culley 2 storage project in 2028 needs to be updated and improved so that the best decision for ratepayers can be made.

Additionally, there will be procurement and planning decisions that will need to be made well in advance of the Brown 5 & 6 conversion and the retirement of Culley 3. This should be done in conjunction with the analysis of the Culley 2 storage project and in support of any further CPCN requests.

CONCLUSION

CEI correctly acknowledges the unprecedented number of uncertainties and current high-cost environment, but the number of flaws in the analysis undermine the confidence in CEI's decisions to spend capital. Improving the analysis and letting some of the unprecedented uncertainty lessen before making additional generation decisions and related large investment of capital makes the most sense for CEI's customers.

Both the uncertainty of market changes and the rate impact of generation decisions on customers support a measured path forward that preserves options and allows the utility to make less risky decisions and possibly lower costs.