

**Reliable Energy, Inc.'s Comments on the IURC Director's Draft Report
on the 2021 Indiana Michigan Power Company's IRP**

June 8, 2023

1. On April 20, 2023, Indiana Governor Eric Holcomb signed into law House Enrolled Act 1007, establishing that Indiana Code 8-1-2-0.6 requires that decisions concerning Indiana electric generation resource mix must consider the following attributes: reliability, affordability, resiliency, stability, and environmental sustainability.¹ Reliable Energy encourages the Director and Commission to consider these attributes as part of the Director's Final Report on I&M's Integrated Resource Plan (IRP).
2. On May 9, 2023, the Director issued his Draft Report on the 2021 Indiana Michigan Power Company (I&M) IRP filed on January 31, 2021.² The Draft Report provides a review of the purpose of the IRP and specifically focuses on the following three areas: (1) load forecasting; (2) assessment of demand-side resources broadly defined to include energy efficiency, demand response resources, electric vehicles, and other distributed energy resources (DERs); and (3) portfolio analysis and the related consideration of risk and uncertainty on different resource portfolios.
3. The Director also summarizes the submissions from the parties that participated in the IRP process and provides his response to those comments.³ The comments are mostly technical in nature. The Director's Report does not conclude that the preferred resource plan in the IRP is dispositive regarding how I&M should proceed. Rather, the Director's Report concludes the following:

The resource portfolios emanating from the IRPs should not be regarded as being the definitive plan that a utility commits to undertake. Rather, IRPs should be regarded as illustrative or an ongoing effort that is based on the best information and judgment at the time the analysis is undertaken. The illustrative plan should provide off-ramps to give utilities maximum optionality to adjust to inevitable changing conditions (e.g., fuel prices, environmental regulations, public policy, technological changes that change the cost effectiveness of various resources, customer needs, etc.) and make appropriate and timely course corrections to alter their resource portfolios.

4. As the Director notes, there have been significant changes in energy markets since the IRP was prepared. Therefore, I&M's analysis and this IRP have limited use in supporting I&M's

¹ HEA 1007 applies to Integrated Resource Plans filed after July 1, 2023.

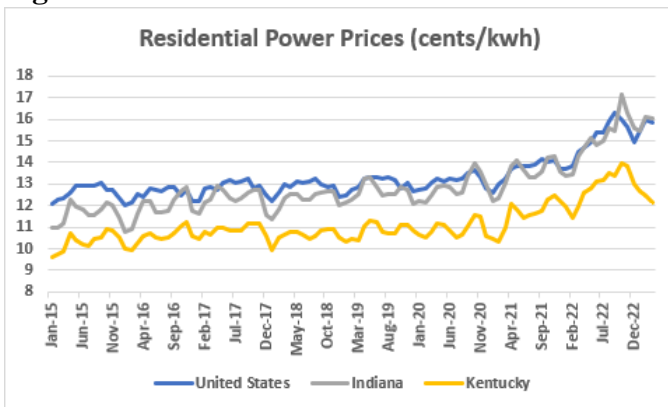
² <https://www.in.gov/iurc/files/Draft-Directors-IM-IRP-Report-5-9-23.pdf>

³ Citizens Action Coalition, Vote Solar, Earthjustice, Indiana Advanced Energy Economy, Office of Utility Consumer Council, Reliable Energy, Inc.

current decisions. In its initial comments, Reliable Energy expressed concern with the time lag, which is even more critical today as PJM is warning of capacity shortages due to retirements outpacing the construction of new resources.⁴ Other material changes such as supply chain delays, high inflation, and most recently actual and proposed changes in utility regulatory compliance requirements also have significant implications for I&M. Accordingly, Reliable Energy respectfully requests that the Director advocate for **requiring** an updated analyses in all requests for a Certificate of Public Convenience and Necessity (CPCN) to ensure that the CPCN reflects the appropriate decisions for ratepayers *at the time a CPCN application is filed*. The burden should be on the utility in a CPCN case to show *why its IRP results are still valid*.

5. Reliable Energy commends the Director and the Commission for efforts to improve the IRP stakeholder process. There remains considerable room for improvement. Reliable Energy stands by its prior comments and encourages the Director to strive to bridge the gap between the current process and one that reflects an expectation and earnest effort by the utility to consider and adjust IRP inputs and approaches based on stakeholder feedback – even when doing so does not result in increased utility profits.
6. As Figure 1 demonstrates, residential rates in Indiana have increased at a faster rate than U.S. residential rates over the last seven years and now exceed national rates.⁵ In part, this is due to accelerated closure of coal plants with high cost replacements and continued charges to customers for stranded assets of the now closed plants. Given the consequence of high rates to the state economy, Reliable Energy encourages the Director and Commission to require that an IRP estimate the impact on residential rates associated with each resource strategy.

Figure 1



⁴ <https://www.pjm.com/-/media/library/reports-notice/special-reports/2023/energy-transition-in-pjm-resource-retirements-replacements-and-risks.ashx>

⁵ Source: US Energy Administration: <https://www.eia.gov/electricity/data/browser/#/topic/7?agg=1,0&geo=vvvvvvvvvvvo&endsec=8&linechart=ELEC.PRICE.US-RES.M&columnchart=ELEC.PRICE.US-RES.M&map=ELEC.PRICE.US-RES.M&freq=M&start=201501&end=202303&ctype=linechart<ype=pin&rtype=s&pin=&rs=0&maptype=0>

7. One of Reliable Energy’s concerns is that I&M uses only a Net Present Value (NPV) metric to determine whether a resource option is affordable.⁶ NPVs are based upon levelized costs. In some cases, including I&M, utilities exclude sunk costs. However, rates are not based upon levelized costs. If a new resource is replacing a resource that has not been fully depreciated, the cost to ratepayers will be even higher as the utility expects a return of and on the remaining undepreciated capital. In ratemaking, stranded costs and undepreciated capital are still charged to customers. The exclusion of these costs in an NPV analysis means that the NPV metric is inaccurate and misleading for purposes of determining whether a resource decision is affordable to ratepayers.

As an example, Table 1 below shows the difference in rates for a new capital investment of \$1 billion dollars based upon a comparison using straight line depreciation and a levelized cost/NPV approach. Using a straight-line depreciation method for ratemaking purposes, in year 1 a customer pays through rates \$113,333,333 (comprised of \$33,333,333 in depreciation + \$80,000,000 in return). By contrast, using the levelized cost/NPV approach, the “cost” is shown as \$88,827,423 because that is the cost of a \$1 billion investment spread evenly over 10 years. Of course, this is *not* how rates are calculated and charged to customers and, as such, the NPV method is not a fair and accurate indicator of affordability.⁷ The levelized cost/NPV approach is akin to a mortgage where costs are levelized over the specified period. However, in ratemaking, costs are front-end loaded in rates and are recovered at a materially higher ratio in the first 10 years than the levelized cost/NPV approach. Hence, the five-year net rate increase considered by I&M understates the rate impact to customers.

Table 1

IMPACT ON CUSTOMERS OF STRAIGHT LINE VERSUS LEVELIZED DEPRECIATION OF COSTS

Cost	1,000,000,000					
Salvage	0					
Life (Years)	30					
Return	0.08					

Year	Investment	Depreciation	Return	(1) \$ in Rates	(2) Levelized Cost	"(1)/(2)
1	1,000,000,000	33,333,333	80,000,000	113,333,333	\$88,827,433	1.276
2	966,666,667	33,333,333	77,333,333	110,666,667	\$88,827,433	1.246
3	933,333,333	33,333,333	74,666,667	108,000,000	\$88,827,433	1.216
4	900,000,000	33,333,333	72,000,000	105,333,333	\$88,827,433	1.186
5	866,666,667	33,333,333	69,333,333	102,666,667	\$88,827,433	1.156
6	833,333,333	33,333,333	66,666,667	100,000,000	\$88,827,433	1.126
7	800,000,000	33,333,333	64,000,000	97,333,333	\$88,827,433	1.096
8	766,666,667	33,333,333	61,333,333	94,666,667	\$88,827,433	1.066
9	733,333,333	33,333,333	58,666,667	92,000,000	\$88,827,433	1.036
10	700,000,000	33,333,333	56,000,000	89,333,333	\$88,827,433	1.006

⁶ See IRP at p. 17.

⁷ Note that I&M states at least a five-year development period for a new CCGT. (IRP page 95)

Notably, Reliable Energy is not recommending that NPV analyses be abandoned. Rather, Reliable Energy recommends that NPV analyses be supplemented with a true affordability analysis.

8. In response to the Director’s invitation, Reliable Energy provides the following specific examples of improvements to evaluate the affordability of portfolio options:
 - *Kentucky Public Service Commission*: In a recently passed bill, Kentucky now requires utilities seeking to retire existing coal plants to demonstrate the retirement will “cause no harm to utility ratepayers and result[] in cost savings for customers when accounting for all known direct and indirect costs of retirement.”⁸ Ultimately, Reliable Energy recommends the Director require I&M to include a metric similar to what is included in the Kentucky legislation. An alternative is to require a compilation of all undepreciated dollars by asset by year so that the Commission and stakeholders can evaluate the proposed dollars in rate base associated with the proposed resource.
 - *Dominion Energy South Carolina (DESC)*: In its 2023 IRP filed on January 30, 2023, DESC evaluates its portfolio options for affordability using the compound annual growth rate (CAGR) for a typical residential customers’ bill (1,000 kWh/month) over a 15-year planning horizon. DESC notes that residential customers historically have placed higher demands on the electric system than large industrial or commercial customers, so residential rate impacts can be proportionally higher than LNPV costs might indicate. DESC’s calculations are not a comprehensive forecast of future bills, and show the change in customers’ bills due to forecasted changes in generation supply costs under each portfolio option and the application of general inflation indices to other cost categories. Using this metric, DESC selected a preferred plan with a lower customer bill impact. <https://dms.psc.sc.gov/Attachments/Matter/ee0417c1-e32f-47f4-a9ee-fd3dc0725186>. To its credit, I&M has partially addressed affordability by adding the “5 Year Net Rate Increase in CAGR” and “Capital Investments through 2028” as metrics. However, given the limited capital investments through 2028, this addition has very limited impact to the overall economics. Reliable Energy has previously recommended that utilities be required to estimate residential rate impacts of all scenarios in years one through 10, but the DESC forecast over a fifteen year planning horizon is even better.
9. Most Indiana utilities are considering investments in new natural gas combined-cycle combustion turbine plants (CCGTs). Reliable Energy has consistently questioned whether a utility’s analysis of this resource option should be based upon an economic life of 30 to 40 years or whether the economic life should be shorter consistent with either the utility’s net zero commitment or with federal announced net zero plans. I&M assumes 30 years for new CCGT⁹

⁸ <https://apps.legislature.ky.gov/recorddocuments/bill/23RS/sb4/bill.pdf>
(See Section 2(2)(b))

⁹ IRP page 95.

and AEP has a corporate goal of net zero by 2045^{10,11}. Alternatively, Reliable Energy has argued the capital commitment should reflect blending with low GHG hydrogen or carbon capture beginning no later than 2045. The consequence of assuming a shorter life is higher rates in years 1 through 13. As shown in Table 2, assuming a new \$1 billion plant, rates increase in the first year by 22% if the plant is depreciated over 17 years versus 30 years.¹² Assuming a 17-year life, stranded costs would be \$435 million if retired in 2045 based upon a 25-year depreciation or \$676 million if retired in 2045 based upon a 30-year depreciation.

Table 2

Annual Cost of New \$1 Billion Investment

Year	17 years	25 years	30 years	17 vs 30
1	138,823,529	120,000,000	113,333,333	122%
2	134,117,647	116,800,000	110,666,667	130%
3	129,411,765	113,600,000	108,000,000	128%
4	124,705,882	110,400,000	105,333,333	126%
5	120,000,000	107,200,000	102,666,667	124%
6	115,294,118	104,000,000	100,000,000	121%
7	110,588,235	100,800,000	97,333,333	119%
8	105,882,353	97,600,000	94,666,667	116%
9	101,176,471	94,400,000	92,000,000	114%
10	96,470,588	91,200,000	89,333,333	111%
11	91,764,706	88,000,000	86,666,667	108%
12	87,058,824	84,800,000	84,000,000	105%
13	82,352,941	81,600,000	81,333,333	102%
14	77,647,059	78,400,000	78,666,667	98%
15	72,941,176	75,200,000	76,000,000	95%
16	68,235,294	72,000,000	73,333,333	91%
17	63,529,412	68,800,000	70,666,667	87%
18		65,600,000	68,000,000	
19		62,400,000	65,333,333	
20		59,200,000	62,666,667	
21		56,000,000	60,000,000	
22		52,800,000	57,333,333	
23		49,600,000	54,666,667	
24		46,400,000	52,000,000	
25		43,200,000	49,333,333	
26			46,666,667	
27			44,000,000	
28			41,333,333	
29			38,666,667	
30			36,000,000	
Stranded Cost after 17 years	-	435,200,000	676,000,000	

¹⁰ <https://www.aep.com/about/ourstory/cleanenergy>

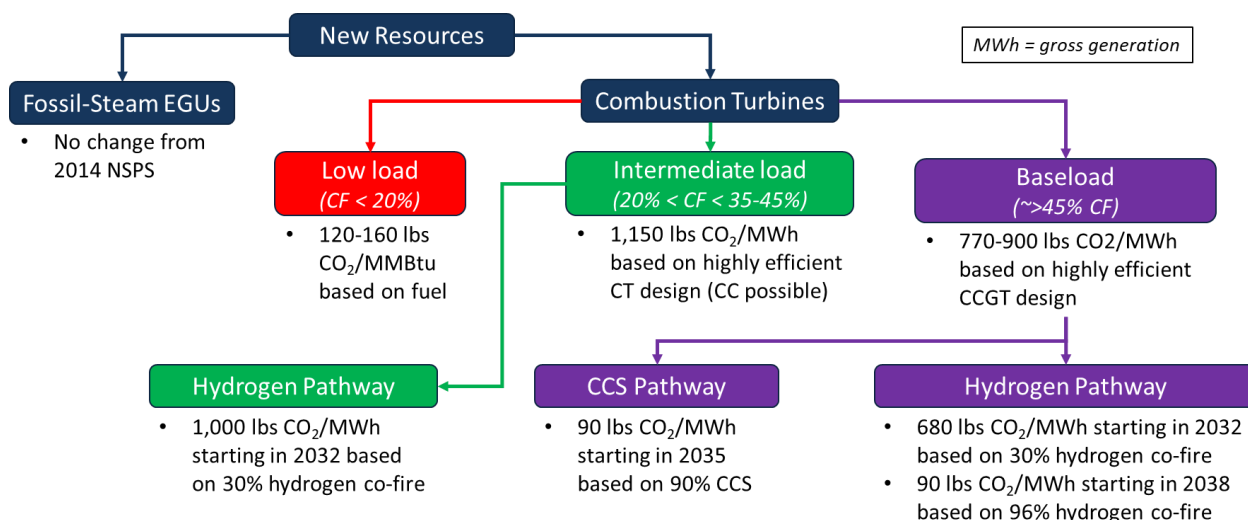
¹¹ A new CCGT coming online in 2028 should be evaluated with a 17-year life.

¹² The rate of return will vary by utility.

While Reliable Energy’s position was justified in its initial comments, it is even more compelling now. On May 23, 2023, EPA published proposed New Source Performance Standards (NSPS) for new natural gas combined-cycle combustion turbine plants (CCGT). Assuming this regulation is finalized as proposed, a new NGCC would either be required to start (about 30 percent) co-firing with low greenhouse gas (GHG) by 2032 increasing to about 96 percent co-firing by 2038 or installing carbon capture by 2035. This proposal is consistent with Reliable Energy’s prior recommendation that Indiana utilities should have either assumed a shorter life for new CCGT’s or included the cost of co-firing or carbon capture. A schematic of the proposed NSPS follows:

Figure 2.

SCHEMATIC OF NEW NSPS



Notably, the EPA proposal also includes new standards for existing coal and natural gas baseload power plants. Existing CCGTs would be subject to similar rules as the new plants. Coal plants require co-firing with about 40 percent natural gas by 2030 if there is a commitment to close by 2040 or carbon capture if the plant is expected to operate past 2040. Despite regulatory uncertainty, the Commission would be ill-advised to approve non-compliant capital investments, particularly for new CCGTs which would be subject to the new NSPS as proposed. Utilities should accordingly be advised that any CPCN filings must reflect pathways and costs to achieve compliance with the proposed rules.

Reliable Energy appreciates the opportunity to comment on the Director's draft. Reliable Energy encourages the Commission and Staff to continue to develop IRP and CPCN requirements that balance the interests of utilities and their stakeholders, as well as to modernize the IRP process to recognize the impact of rapidly changing energy markets and the inherent advantage utilities have in the existing IRP process.