INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR'S COMMENTS ON AES INDIANA'S 2025 INTEGRATED RESOURCE PLAN (Submitted March 6, 2026)

I. INTRODUCTION

The Indiana Office of Utility Consumer Counselor (OUCC) respectfully offers its comments on AES Indiana's 2025 Integrated Resource Plan (IRP). AES Indiana held a series of IRP stakeholder meetings from January 2025 through October 2025, and the OUCC appreciated the opportunity to participate in these meetings. OUCC staff also participated in separate technical meetings with AES Indiana and other stakeholders. However, as with all Indiana investor-owned electric utilities, the ultimate preferred resource portfolio and action plan decisions are AES Indiana's alone and are not determined by participating stakeholders.

The purpose of our comments is to recommend improvements to AES Indiana's IRP processes and Preferred Portfolio development as well as make suggestions to the Indiana Utility Regulatory Commission (IURC) for the benefit of Indiana's consumers. The fact that the OUCC does not address specific items, assumptions, or portfolios should not be interpreted as support on those matters. It is impractical to weigh in on every issue given the amount of information and level of depth in these plans.

II. FIVE PILLARS

Affordability

AES Indiana presents a 10-year Present Value Revenue Requirement (PVRR), a 25-year PVRR, a 10-year levelized total system supply cost, and a 25-year levelized total system supply cost as its affordability metrics.[1] Although AES Indiana's analysis shows that adding data centers to AES Indiana's system will significantly increase the 10-year and 25-year PVRR, it projects the total system levelized supply cost will decline because the additional investment costs to serve data center load will be spread over additional sales from data center customers.[2] . However, the OUCC is concerned the decrease in the levelized supply cost may not be evenly distributed among customer classes. AES Indiana did not provide a breakdown of the projected rate impact for each customer class, indicating that cost allocation and rate design require cost-of-service studies and rate cases.[3] While the OUCC recognizes that precise cost allocations for each specific customer class would need to be studied and reviewed in a rate case, the OUCC recommends AES Indiana

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[1] AES Indiana 2025 IRP, Vol 1., p. 152.
[2] 2025 IRP, Vol. 1, p. 20.
[3] 2025 IRP, Vol. 1, p. 20.

provide an estimated rate impact for residential, commercial, and industrial customers, as it has the historical and forecasted load data for these groups to derive these estimates. At a minimum, AES Indiana should provide an estimated residential rate impact, as residential customers are more sensitive to affordability impacts.

Reliability, Resilience, and Stability

AES Indiana uses a 50 MW limit on capacity purchases and sales in its modeling; however, Quanta found all portfolios without “at least 50% of its transmission capacity from neighboring systems” will fail the energy adequacy test by 2035. The OUCC recommends AES Indiana apply or reapply this 50% transmission capacity constraint to its own modeling assumptions.

Quanta performed only a fully interconnected and islanded scenario for AES Indiana’s Frequency Response (Inertial and Primary). Preferably, each portfolio should be evaluated under decreasing critical or historically vulnerable points of interconnection until the frequency drops exceed the allowable 0.5 Hz limit. This evaluation would measure the relative response of each portfolio’s resilience under low-inertia operation. Minimally, the OUCC recommends various degrees of interconnection should include 0% (islanded), 50%, and 100%.

The OUCC recommends a normalized study for reliability scoring as in AES Indiana’s 2022 IRP, Volume 3, Attachment 8-3, page 18 of 21, Table ES-9. AES Indiana separately analyzed dispatchability as its metric for reliability. Quanta excluded dispatchability and other metrics from its prior 2022 IRP analysis, specifically Operational Flexibility and Frequency Support, Power Quality (Flicker), Blackstart, Dynamic Volt-Ampere Reactive Deliverability, Predictability and Firmness of Supply, and Geographic Location Relative to Load. This approach offers a fragmented and incomplete view and fails to capture the full scope of reliability, resilience, and stability.

Frequency response analysis showed a “risk of disconnection” before the year 2030 under “islanded emergency conditions,”[4] following the sudden loss of a 525 MW generating unit. The IRP indicates investment in fast frequency response resources is “emphasize[d]”[5] and needed. The report, however, does not include information on the probability of islanded emergency conditions and the failure of a 525 MW generating unit simultaneously occurring. Reliability must be balanced with affordability. A proper cost-benefit analysis should measure the probability of disruption and the costs of that disruption against the cost of additional protection.

[4] 2025 IRP, Vol. 1, p. 236
[5] 2025 IRP, Vol. 1, p. 236.

Environmental Sustainability

The Environmental Sustainability Pillar, as described in Ind. Code § 8-1-2-0.6(5), includes the impact of environmental regulations on the cost of providing electric utility service and evaluating customers' demand for environmentally sustainable sources of electric generation. To evaluate environmental sustainability for this IRP, AES Indiana used two criteria: 1) total portfolio emissions of short tons of carbon dioxide (CO_2); and 2) total portfolio emissions of CO_2 per MWh of load.

While these criteria would have been appropriate when AES Indiana first began creating its IRP, changes in our Federal and State Administrations and their shift away from CO_2 regulation has made these criteria less relevant. AES Indiana should have shifted to a more comprehensive evaluation of compliance with environmental regulations AES Indiana will be subject to for the foreseeable future. Items AES Indiana should have considered in its analysis include nitrogen oxide (NO_x) air emissions and wastewater discharge. The addition of such criteria would allow for a better measure of the Environmental Sustainability Pillar.

III. <u>ADDITIONAL ISSUES</u>

<u>Forecasting</u>

In Volume 1 (pages 46-47) AES Indiana used statistical sampling to monitor customers' electric usage. Residential rates RS, RH, and RC are based on a target of monitoring 1,000 customers each, with 250 from each of the four stratums. However, "A few customers were ultimately excluded due to missing interval data."[6] Rate RS successfully sampled 999 customers, and Rate RC sampled 994; however, Rate RH, general service with electric heat, sampled only 913 customers out of a target of 1,000. The OUCC is concerned that the 8.7% failure rate results in an inadequate sample size and introduces the possibility of errors in AES Indiana's residential load forecast. Further, 87 missing customers could represent over a third of one stratum, and these customers may share similar characteristics that AES Indiana failed to capture by omitting them from its analysis.

A similar issue exists regarding small commercial rates. For Rates SS, SH, and SL, the target was 500 customers across three stratums for each rate class. However, the failure rates were much higher with the commercial customer sampling. Rate SS, Secondary Service—Small had 470 successful samples for a failure rate of 6%. Rate SH, Secondary Service—Electric Space Conditioning had 41 failures (8.2% failure rate). Rate SL, Secondary Service—Large had 78 failures out of 500 targets, representing a 15.6%

[6] 2025 IRP Vol 1, p. 47.

failure rate. Again, the OUCC's concern is that the missing samples could have traits in common and, if this is the case, AES Indiana's load forecast may be inaccurate.

AES Indiana fed historical data into the Itron model to forecast load growth.[7] This was then modified for "the expected impact of behind-the-meter solar and electric vehicle charging loads."[8] AES Indiana bases this modified load growth on an equation created by researchers at Carnegie Mellon University to model solar and electric vehicle adoption. The method is explained in a paper, "Hierarchical Spatio-Temporal Uncertainty Quantification for Distributed Energy Adoption." [9] However, the method uses purely historical data and does not account for recent legislative changes in 2025 that accelerate the expiration of tax credits for electric vehicles and residential solar systems. These legislative changes could significantly alter the accuracy of AES Indiana's load forecast if AES Indiana does not account for them.

The technical paper, "Hierarchical Spatio-Temporal Uncertainty Quantification for Distributed Energy Adoption" [10] appears without accompanying peer review. It is not clear the method described has been used successfully in other IRPs. The use of novel methods for predicting load is promising but requires further testing.

Scenarios

The OUCC considers the combination of High Data Center Load case and the Stable Markets scenario unlikely.[11] In the High Data Center Load case, AES Indiana adds 2,500 MWs within the next 10 years. The Stable Markets scenario assumes AES Indiana's load decreases.[12] Given that AES Indiana's current peak load is approximately 2,800 MWs,[13] current load would need to drop below 300 MWs for AES Indiana's load to decrease with a 2,500 MW addition. This scenario is highly unlikely.

All four scenarios assume stable or falling renewables capital expenditures (CAPEX).[14] This assumption has been historically valid; however, in 2025, solar panels were significantly impacted by tariffs and legislative changes, including an accelerated phase-out of tax credits.[15] Wind energy has also experienced political scrutiny in the past year, creating

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[7] 2025 IRP Vol. 1, pp. 48, 50-51, 58-70.
[8] 2025 IRP Vol 1, p. 48.
[9] 2025 IRP Vol. 3, Attachment 5-4, p. 72
[10] 2025 IRP Vol. 3, Attachment 5-4, p. 72
[11] 2025 IRP, Vol. 1, p. 162-164.
[12] 2025 IRP, Vol. 1, p. 16, Figure 0-2.
[13] 2025 IRP, Vol. 1, p. 48, Figure 5-2.
[14] 2025 IRP, Vol. 1, p. 162-164, including Figure 9-2.
[15] *Tax Provisions in H.R. 1, the One Big Beautiful Bill Act: House-Passed Version*. (2025). https://www.congress.gov/crs_external_products/R/PDF/R48550/R48550.1.pdf (p. 64)

uncertainty as to the development or construction of planned wind generation. At the same time, many of the companies pursuing data centers have set carbon-neutral or other 'green' goals. Meeting those goals could increase demand for renewable projects. Together, this leads to a probability of increased renewable generation costs as supply falls or struggles to keep steady with demand. A scenario with increased costs for renewable projects is a notable omission from the IRP.

As the market sees a greater demand due to data centers, the Gas Infrastructure Challenges Scenario would have been more informative had AES Indiana assumed high capital costs rather than base capital costs. The only other scenario that assumes high capital costs is the High Regulatory: Environmental Scenario. With the data centers fueling substantial increases in demand for new generation capacity, thermal CAPEX will also increase as utilities compete to quickly acquire or build new natural gas generating resources.

Retirements

Harding Street Natural Gas Steam Turbines Units 5-7 retirement has been postponed about 10 years from the original 2030s timeframe to the 2040s. AES Indiana provides no explanation why it postponed retiring the Harding Street units in this IRP. In the 2022 IRP, the Harding Street units were scheduled to retire at the same time, which was 10 years earlier throughout all five generation strategies evaluated.[16] AES Indiana does not explain why the life extension was prolonged by 10 years or whether it has conducted a cost-benefit analysis showing it is reasonable to extend the lives of these units by 10 years.

Electric Vehicles

As of 2023, Tesla battery electric vehicles (BEV) were driven more at 8,786 annual miles compared with 6,235 annual miles for non-Tesla BEVs in the United States.[17] These values both exceed AES Indiana's assumed 5,300 miles per year,[18] suggesting that electric vehicle (EV) energy projections are conservative on a per-vehicle basis and primarily sensitive to adoption assumptions.

Figure 5-11 does not clearly indicate how policy changes such as the expiration of federal EV purchase incentives under the One, Big, Beautiful Bill Act (OBBBA) affects the saturation parameters. While the figures may be consistent with the modeling framework

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[16] AES Indiana 2022 IRP, Vol. 1, p. 194.
[17] Zhao, L., Ottinger, E. R., Hong, A., & John Paul Helveston. (2023). Quantifying electric vehicle mileage in the United States. *Joule*. https://doi.org/10.1016/j.joule.2023.09.015
[18] AES IN IRP Volume 1, Figure 5-13, p. 66.

described in Section 5.5, and as shown in the presentation including Professor Zhu's[19] EV unit prediction, there is no visible inflection point around 2025. The absence of any visible inflection or moderation in the post-2025 period may overstate near and mid-term EV energy sales under current federal policy. EV energy sales continue to rise steadily through 2050, with no prolonged flattening or delayed adoption period. The low EV case may function more as a reduced growth trajectory than a downside scenario under changed policy conditions with OBBBA's implementation. Additionally, the table below shows the number of EV registrations in Marion County, which represents the largest share of AES Indiana's customer base, and provides a useful indicator of local EV adoption trends. While EV charging demand is not perfectly co-located with vehicle registration, particularly given the potential for commuters from surrounding counties charging at public or workplace facilities within Marion County, the observed deceleration in Marion County EV registration levels still suggests slowing adoption momentum in AES Indiana's main service territory. Moreover, absent evidence that surrounding counties are exhibiting different adoption rates, these trends raise reasonable questions regarding near-term EV growth assumptions. When combined with the policy changes mentioned above, this suggests that near-term EV adoption uncertainty may be higher than reflected in the smooth trajectories shown in Figures 5-14 and 5-15.

Marion County EV Registration		
Registration Year	EVs Registered	% Change from Prior Year
2018	908	
2019	1,160	28%
2020	1,414	22%
2021	1,755	24%
2022	2,641	50%
2023	3,965	50%
2024	5,085	28%
2025	4,461	-12%

Additionally, according to the International Energy Agency (IEA), 2024 U.S. electric car sales growth was approximately 75% less than experienced in 2023.[20] There has also been a

[19] 2025 IRP Vol. 2, p. 87.
[20] International Energy Agency: https://www.iea.org/reports/global-ev-outlook-2025/trends-in-electric-car-markets-2

steady decline in government spending per vehicle, in the form of purchase subsidies and tax incentives over the past decade. According to the IEA, "In 2024, government spending accounted for less than 7% of total spending on electric cars globally, compared to 20% in 2017."[21] While declining government spending as a percentage of total EV expenditures may partially reflect market expansion and broader private sector participation, federal policy changes materially altered the incentive landscape. The elimination of federal EV tax credits such as the New Clean Vehicle Credit, the Used Clean Vehicle Credit, and the Qualified Commercial Clean Vehicle Credits after September 30, 2025, under the OBBBA[22] removed a source of support that historically reduced upfront costs for consumers. Additionally, the Trump Administration has targeted previous EV regulatory initiatives and recently announced re-setting the Corporate Average Fuel Economy (CAFE) standards to remove imputed EV fuel economy performance.[23] As such, AES Indiana should reassess whether its assumed EV penetration trajectory remains reasonable under these changed conditions.

AES Indiana indicates the theoretical EV penetration rate is 56.25%, with the tipping point in 2029.[24] However, achieving over half of the addressable market within the next several years appears optimistic given regional adoption patterns, infrastructure constraints, and recent policy changes with the implementation of the OBBBA. The theoretical penetration amounts to about 300,000 customers[25] owning an EV by the saturation limit which, again, is overstated. Contextually, translating this penetration rate into expected EV counts or customer percentages would improve interpretability and planning transparency. Additional context regarding eligibility assumptions used to come to this penetration rate are not transparent. How widely AES Indiana defines the "eligible" population, including whether renters, multi-unit dwellings, low-income households, and vehicle-limited customers are excluded is important information to know when viewing this penetration level.

AES Indiana has not modeled the impacts of the OBBBA, CAFE standards reset, or President Trump's other policies in its analysis, even though these federal policy changes could materially affect EV adoption and load growth. As a result, the Company's EV count and demand assumptions are incomplete, even for the low case. AES Indiana should

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[21] International Energy Agency: https://www.iea.org/reports/global-ev-outlook-2025/trends-in-electric-car-markets-2

[22] IRS: https://www.irs.gov/newsroom/one-big-beautiful-bill-provisions

[23] The White House. (December 3, 2025) Fact Sheet: President Donald J. Trump Announces the Reset of Corporate Average Fuel Economy (CAFÉ) Standards. https://www.whitehouse.gov/fact-sheets/2025/12/fact-sheet-president-donald-j-trump-announces-the-reset-of-corporate-average-fuel-economy-cafe-standards/.

[24] AES IN IRP Volume 1, Figure 5-11, p. 61.

[25] 0.5625*530,000 residential customers = 298,125 customers

remodel its EV projections to incorporate the impacts of the OBBBA, changes to CAFE standards, and other federal policy changes to ensure the EV forecast reflects realistic, policy consistent conditions over the planning horizon.

Toyota Motor has reduced its planned electric vehicle production for 2026 by roughly a third, reflecting weaker than expected EV sales, while Volvo Car has abandoned its goal of becoming fully electric by 2030 and now expects to continue offering hybrid models. Similarly, in the U.S., General Motors and other automakers have delayed or canceled new EV launches to avoid significant investments amid slowing consumer demand.[26]

These developments indicate EV adoption is progressing more slowly and less uniformly than previously assumed, even among major global and U.S. manufacturers. While there may have been a short-term increase in EV sales in 2025 as consumers sought to take advantage of federal tax credits prior to their expiration, such policy driven spikes do not reflect sustained market demand or long run adoption trajectories. Accordingly, reliance on temporary sales increases to justify AES Indiana's assumed 56.25% theoretical EV penetration rate is not appropriate. Taken together, current automaker production decisions, infrastructure constraints, and broader market signals support a more gradual transition rather than rapid, near majority adoption.

Demand Side Management

DSM bundles are converted into "capacity-like" resources using generic end-use load shapes (Lawrence Berkley National Labs / National Renewable Energy Laboratory)[27]; however, no empirical validation is provided indicating energy efficiency (EE)savings align with coincident peak hours relevant to Midcontinent Independent System Operator (MISO) seasonal accreditation, raising concerns about overstated firm capacity contributions.

EV managed charging programs are pilot stage, not MISO accredited, and explicitly excluded from firm capacity contributions.[28] Yet EV load growth is material elsewhere in the IRP, creating an internal inconsistency where EV demand is modeled aggressively but EV DSM mitigation is speculative and deferred to post 2028 evaluation. As a result, near term capacity needs may be overstated without corresponding verifiable EV DSM offsets.

Figure 6-23 reports ex-post 2024 savings but does not discuss whether measure persistence was considered when extrapolating savings into a 25-year IRP horizon. Using a

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[26] https://www.reuters.com/business/autos-transportation/toyota-cut-2026-global-ev-production-by-around-third-1-mln-nikkei-reports-2024-09-06/
[27] 2025 IRP, Vol. 1, p. 25.
[28] 2025 IRP Vol. 1, p. 94.

single recent year risk overstates long-term achievable savings, especially for behavior-based programs like the Home Energy Report.

In Figure 6-24, total registered DR capacity (approximately 59 MW summer unforced capacity) is small relative to modeled peak needs, yet later portfolios assume materially higher firm DR contributions. This is an unexplained inconsistency. Additionally, Figure 6-24 does not distinguish dispatch reliability or event frequency, which affects the firm capacity value. This information should be distinguished in future IRPs.

Figures 6-31 through 6-34 present Maximum Achievable Potential (MAP) and Realistic Achievable Potential (RAP) trajectories as smooth, steadily increasing curves without confidence intervals, downside sensitivity cases, or attrition scenarios. This presentation implicitly assumes stable funding levels, sustained customer participation, and consistent program performance over multiple decade horizons. In practice, DSM outcomes are sensitive to market saturation effects, customer fatigue, administrative constraints, and changing regulatory priorities. Therefore, the absence of uncertainty bounds may overstate realizable long-term DSM savings and underrepresent downside risk in capacity planning.

Figures 6-35 and 6-36 project significant DR growth without reconciling with today's modest registered capacity in MISO (Figure 6-24). In AES Indiana's future IRPs, it would be useful to explain how DR projections are derived. Additionally, the gap between current enrollment and future RAP is not explained or elaborated upon. It would also be useful to explain this discrepancy in future IRPs.

<u>Environmental Assumptions</u>

On April 25, 2024, the U.S. Environmental Protection Agency (EPA) released its final rule on carbon pollution standards for fossil fuel-fired power plants under Section 111 of the Clean Air Act (Rule 111). The rule required a 90% reduction in carbon emissions from existing coal-fired power plants and new gas-fired power plants and required states to initiate rulemakings for carbon reductions at existing coal plants. However, on June 11, 2025, the EPA issued a notice of rulemaking on a rule to repeal Rule 111. If the proposed rulemaking overturns Rule 111, this will undermine some of the carbon emission regulation assumptions made in the IRP model. On February 12, 2026, the EPA also finalized its rule to rescind the 2009 Greenhouse Gas (GHG) Endangerment Finding. Future administration changes may see a renewed effort to regulate CO_2 emissions, but any future regulation will be at least six to eight years away from implementation, as the EPA would likely need to re-establish a finding that CO_2 or any other GHGs endanger public health or welfare.

The scenario driver AES Indiana used for evaluating environmental costs involved the repeal of Rule 111. The High Regulatory Environmental scenario assumed Rule 111 remained in place. All other scenarios assumed repeal of Rule 111.[29] At the beginning of 2025, the current Administration made it clear that it intended to repeal Rule 111, so this driver is irrelevant given the current regulatory environment. While future GHG standards are possible, the process of rulemaking for such standards is unlikely until after future IRP analyses are completed. If CO_2 regulations are modeled, there should be an assumption that these regulations are delayed by several years even in the High Regulatory Environmental scenario. AES Indiana should have used drivers, such as NOx emissions, based on regulations that will have an actual impact on affordability and sustainability in the foreseeable future.

NO_x emissions are the main air pollutants from natural gas fired power plants that are at greater risk for regulatory change. Therefore, air emission regulations affecting NO_x and ozone will affect the environmental sustainability and affordability of natural gas plants within AES Indiana's portfolio. AES Indiana indicates future revisions to the National Ambient Air Quality Standards and the Cross State Air Pollution Rule (CSAPR) could impact AES Indiana's NO_x emission compliance requirements.[30] The OUCC acknowledges that the United States Supreme Court recently stayed implementation of the most recent CSAPR update and the current Administration has signaled its intent to repeal provisions of the CSAPR update. However, any regulation change regarding NOx emissions could impact existing and future natural gas plant operational costs. AES did not consider NOx emission costs when evaluating scenarios.

IV. CONCLUSION

The OUCC appreciates the opportunity to participate in AES Indiana's IRP stakeholder process. The OUCC also appreciates AES Indiana and the IURC considering these comments. The OUCC finds great value participating in the IRP process and expresses its thanks to all participating stakeholders.

[29] AES 2025 IRP, Figure 9-2: Summary of Scenario Assumptions, p. 163
[30] AES 2025 IRP, 7.1 Environmental Overview, p. 116