COMMENTS OF CLEAN GRID ALLIANCE ON THE 2024 INTEGRATED RESOURCE PLAN OF NORTHERN INDIANA PUBLIC SERVICE COMPANY

March 10, 2025

Clean Grid Alliance ("CGA")[1] appreciates the opportunity to file comments with the Indiana Utility Regulatory Commission ("the IURC") in Docket No. 46172 regarding the 2024 Integrated Resource Plan ("IRP") of Northern Indiana Public Service Company ("NIPSCO" or "the Company").[2] CGA acknowledges and supports the Company's efforts to transition from coal-fired generation and to incorporate more clean energy resources into its system, and CGA is especially supportive of the Company's planned investment in nearly 1,000 MW of energy storage capacity as well as its interest in a long-duration energy storage ("LDES") project.

However, CGA urges NIPSCO to increase the scale and pace of wind and solar resource additions to its system; we argue that NIPSCO should replace some level of the proposed new gas-fired capacity with wind and solar, pairing these resources with energy storage as much as possible to maximize their potential and increase their capacity accreditation. Section I addresses these concerns. In Section II we recommend changes to certain actions proposed under the Short-

[1] Clean Grid Alliance (CGA) is a 501(c)(3) nonprofit organization based in St. Paul, Minn., whose mission is to advance renewable energy in the Midwest. CGA has been an active stakeholder in the MISO process at the state and regional levels and a leading organization working on transforming state energy policy. CGA's membership includes industry representatives working in wind, solar and storage as well as environmental nonprofit organizations, public interest groups, clean energy advocates, farm groups, and businesses providing goods and services to the clean energy industry who come together to reduce carbon and deliver a clean energy future.

[2] *See* Indiana Utility Regulatory Commission ("IURC"). Docket No. 46172. *In the Matter of Northern Indiana Public Service Company's 2024 Integrated Resource Plan* ("NIPSCO 2024 IRP"). Filed December 9, 2024.

Term Action Plan ("Short-Term Plan") that would result in more cost-effective renewable additions in the near-term and over the planning period.

Finally, while CGA appreciates the two-track approach to supply-side additions that hinges on the level of data center demand materializing by 2035, in Section III we caution NIPSCO not to overlook existing opportunities to serve those loads, such as through surplus interconnection and demand response, that could reduce some level of the capital investment required. We also encourage NIPSCO to pursue renewable and storage hybrids to serve the load that does materialize beyond those existing resources. More broadly, we caution both the IURC and the Company that the data center demand forecast may be inflated given a few salient factors, including (a) the likelihood that computational and operational efficiencies will emerge as the industry matures, (b) the late-February announcement from Microsoft that the company would be cancelling hundreds of MW worth of data center projects in the U.S., and (c) that data center developers face many of the same challenges that energy-generation project developers face: permitting and siting challenges; supply chain limitations, including those resulting from tariffs on steel and aluminum imports; and competitors (like the Chinese company DeepSeek) that may disrupt the U.S. market.

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I. Preferred Portfolio Recommendations

NIPSCO evaluated six unique candidate plans and two variations on one of those candidates, accounting for MISO's Direct Loss of Load ("DLOL") framework only for portfolio candidates "B", "D" and two variants on D, and "F".[3] Given that NIPSCO did not evaluate Portfolios "A", "C", and "E" against the DLOL construct as its IRP development process began well before the new capacity accreditation framework was approved at FERC, we have excluded those portfolios from our IRP analysis. The Company ultimately identified the variant "Portfolio D_CCUS" as its Preferred Portfolio. CGA is concerned (a) with the insufficient level of wind and solar supply-side additions selected under Portfolio D_CCUS; (b) that solar resource cost projections may be artificially high as they are based on limited responses (by deal structure) to the Company's 2024 Request for Proposals ("RFP") and on a much higher estimate for fixed operating and maintenance ("fixed O&M") costs than is projected by industry experts; (c) with the high level of investment in gas-fired capacity and carbon capture, utilization, and storage ("CCUS") technology; and (d) with the exclusion of LDES from the Portfolio. We discuss each issue and propose solutions in turn.

a) Insufficient wind and solar capacity.

Portfolio D_CCUS adds the least wind capacity when compared to other candidate portfolios taking DLOL capacity accreditation into account (e.g., Portfolios B and F) and adds less solar capacity than Portfolio F.[4] As a result, Portfolio D_CCUS appears to rely more heavily on the market than does Portfolio F, which indicates that increasing solar and wind capacity from the

[3] Given that NIPSCO did not evaluate Portfolios "A", "C", and "E" against the DLOL construct, we have excluded those portfolios from our IRP analysis.
[4] NIPSCO 2024 IRP. Section 9, subsections 9.1.3.2 on p. 253, 9.1.3.4 on p. 254, and 9.1.3.6 on p. 256 for annual resource additions for Portfolios B, D, and F, respectively. *Also see* "Figure 9-8: Annual Resource Additions (Nameplate MW)" on p. 256.

1,275 MW and the 1,550 MW included under Portfolio D_CCUS, respectively, would result in less exposure to wholesale market price volatility and any risk of resource shortages during periods of grid stress impacting the MISO-North region. It is critically important to mitigate this risk at a time when other Indiana utilities and those in the region are planning to also increase reliance on wholesale market purchases.

In addition to increasing solar and wind capacity, NIPSCO should shift the addition of these resources towards the short- and mid-terms to make the best use of the federal Clean Electricity Investment Tax Credit ("ITC") and Clean Electricity Production Tax Credit ("PTC"). We acknowledge the fate of both the ITC and PTC are uncertain under the Trump administration, but under the U.S. Treasury Department's current rules, each will begin phasing-out by "the later of 2032 or when U.S. greenhouse gas emissions from electricity are 25% of 2022 emissions or lower."[5] However, assuming the federal tax credits remain intact throughout the planning period, each subsequent phase-out could negatively impact project economics, an outcome NIPSCO should not risk.

b) High solar resource cost projections.

NIPSCO used third-party sources and responses to its 2024 RFP to inform resource costs in modeling and ultimately, portfolio selection. However, NIPSCO's estimate for fixed O&M costs is much higher than the fixed O&M costs for solar estimated in Lazard's 2024 Levelized Cost of Energy report ("Lazard's LCOE"): NIPSCO estimated fixed O&M for utility-scale solar

[5] The U.S. Internal Revenue Service finalized the Clean Electricity tax credit rules on January 7, 2025. Information about each can be accessed at: https://www.irs.gov/credits-deductions/clean-electricity-production-credit and at https://www.irs.gov/credits-deductions/clean-electricity-investment-credit

resources would be $22/kW-year[6] while Lazard's estimate for fixed O&M was approximately $11-14/kW-year.[7] NIPSCO should either explain and justify the factors leading to its much-higher cost projection or adjust its model to reflect the lower fixed O&M for solar projected in the widely-accepted analysis from Lazard's LCOE.

Regarding the 2024 RFP data, CGA is concerned with the limited dataset which NIPSCO relied on, as proposals for solar included just two asset sale offers but twenty power purchase agreement ("PPA") bids.[8] One of these asset sale bids was offered at the rate of $2,096/kW and the other at $2,350/kW.[9] Both figures are several hundred dollars higher per kW than the solar cost projection of $1,850/kW from Duke Energy Indiana's 2024 IRP.[10] This indicates that NIPSCO should shop for more cost-effective proposals and update the model accordingly, or explain why the bids received are comparatively high.

CGA also recommends that NIPSCO include PPAs in its resource portfolio via an "ownership split" of supply-side additions, which would support a competitive energy market – and therefore, competitive rates – in the state of Indiana. NIPSCO can do this by committing to PPAs for a percentage of new solar and wind capacity while choosing between asset sale deals and PPAs for the remaining percentage. The benefits of ownership splits have been recognized by the Michigan Public Service Commission ("MPSC"), which ordered both DTE and Consumers Energy to adhere to splits for capacity acquisitions of 30% and 50%, respectively, to

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[6] NIPSCO 2024 IRP. Section 4, subsection 4.6.3.1. *See* Figure 4.12: "Long-Term Solar Cost Assumptions", p. 129.
[7] *See* Lazard. "Levelized Cost of Energy Plus". (June 2024). Note "Appendix: Key Assumptions", p. 38. Accessed at: https://www.lazard.com/media/xemfey0k/lazards-lcoeplus-june-2024-_vf.pdf
[8] NIPSCO 2024 IRP. Section 9, subsection 4.6.1, "Request for Proposals". *See* Figure 4.4: "Summary of proposals received by resource type", p. 122.
[9] NIPSCO 2024 IRP. Section 9, subsection 4.6.2.1, "Tranche Development". *See* Figure 4.9: "Summary of solar RFP tranches", p. 127.
[10] *See* IURC. Docket No. 46155. *In the Matter of Duke Energy Indiana's 2024 Integrated Resource Plan.* (Filed November 1, 2024). Chapter 3, "Key Assumptions", Table 3-11: "Overnight Capital Costs of Solar and Solar Paired with Storage", on p. 87.

be sourced via PPAs in recent settlement negotiations.[11] Finally, as Indiana's voluntary Clean Energy Portfolio Standard ("CPS") provides financial incentives for both utility-generated and purchased clean energy, [12] NIPSCO should view PPAs as a viable tool in achieving clean energy goals that also benefits the Company at large, and should invite PPA bids via an All-Source procurement process, staying alert to the potential for lower bids than it received in its latest RFP.

c) Over-investment in gas-fired capacity.

Portfolio D_CCUS adds up to 3,835 MW of gas combined cycle ("CCGTs") and peaking units ("CTs"), with an initial 1,703 MW to be added by 2029 and another 2,150 MW coming online by 2037.[13] Although their contribution will peak in the early 2030s,[14] these resources would make up the largest share of the Company's energy mix through 2043. This level of reliance on gas as a fuel source introduces fuel price volatility risk, regulatory and winter reliability risks, and fuel supply challenges, issues with the resource CGA discussed at length in comments on the Duke Energy Indiana ("Duke) 2024 IRP.[15] Risks related to price volatility and resource availability are garnering increased attention and scrutiny due to the Trump Administration's push to expand gas exports which the U.S. Energy Information Administration forecasts will lead to higher prices as demand exceeds supply.[16] Furthermore, NIPSCO's proposal to add 1,703 MW of new gas capacity in the short-term shares the same challenges and

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[11] *See* Michigan Public Service Commission, Case Nos. U-21193 (DTE application regarding PPAs and other relief) and U-21090 (Consumers Energy 2021 IRP).
[12] *See* Indiana Code 8-1-37, "Voluntary CPS Program". Note Section 12(a)(3) on eligibility criteria for shareholder incentives and Section 13(a) and (c)(2) for information on the shareholder incentives, including cost recovery and return on equity. Accessed at: https://iga.in.gov/laws/2024/ic/titles/8#8-1-37-12
[13] The Preferred Portfolio retrofits 2,000 MW of this capacity with CCUS by 2035-2037.
[14] NIPSCO 2024 IRP. Section 9, "Figure 9-45: Preferred Portfolio Energy Mix", p. 288.
[15] IURC. "Integrated Resource Plans". CGA's comments were filed on February 13, 2025; see pp. 13-16 for a deeper discussion of the risks associated with reliance on gas-fired generation. Accessed at: https://www.in.gov/iurc/energy-division/electricity-industry/integrated-resource-plans/#Duke_Energy_Indiana
[16] *See* U.S. Energy Information Administration. "EIA expects higher wholesale U.S. natural gas prices as demand increases". (January 23, 2025). Accessed at: https://www.eia.gov/todayinenergy/detail.php?id=64344

risks that Duke faces in its own short-term addition of 2,876 MW of gas: current supply chain challenges extending project lead times by several years,[17] gas supply and pipeline capacity constraints[18] compared to demand for the product across MISO and the greater US,[19] and project permitting.[20]

Additionally, environmental sustainability is one of Indiana's "Five Pillars of Energy Policy"[21] but the Company's "Preferred Portfolio" has among the highest annual CO2 emissions intensity of the candidate plans through the early 2030s, at which point it starts dropping due to the retrofitting of just over half of the gas combined cycle units with CCUS technology.[22] This demonstrates that CCUS is critical to the environmental sustainability of the portfolio. However, the CCUS phase-in for the Preferred Portfolio is labeled an "optionality … in the face of uncertainty associated with future environmental policy".[23] Given the priorities of the Trump administration and current US Congress, there is a potential for CCUS-enabling incentives such

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[17] GE Vernova reports a backlog of at least 3 years on gas turbines. *See* Greenville Business Journal. "GE Vernova investing $160M in Greenville to expand gas turbine production". (January 30, 2025). Accessed at: https://upstatebusinessjournal.com/manufacturing/ge-vernova-investing-160m-in-greenville-sc-to-expand-gas-turbine-production/

[18] *See* North American Energy Standards Board ("NAESB"). "Gas Electric Harmonization ('GEH') Forum Report." (July 28, 2023). Note Recommendations 19 and 20 regarding gas supply and infrastructure adequacy. Accessed at: https://www.naesb.org/pdf4/geh_final_report_072823.pdf

[19] In the MISO region, 1.7 GW of gas-fired capacity has been announced or approved for 2025. *See* S&P Global. "Commodities 2025: US renewables growth to surge as fossil plant retirements tick up". (December 27, 2024). Accessed at: https://www.spglobal.com/commodity-insights/en/news-research/latest-news/natural-gas/122724-commodities-2025-us-renewables-growth-to-surge-as-fossil-plant-retirements-tick-up. *Also note* the U.S. EIA reports more than 4 GW of gas-fired capacity from 53 new unit installations in 2025. *See* EIA. "U.S. total by year, planned capacity additions". (December 31, 2023). Accessed at: https://www.eia.gov/electricity/annual/html/epa_04_05.html

[20] *See* The Brattle Group. "Economic analysis of clean energy tax credits". (February 2025). Accessed at: https://www.brattle.com/wp-content/uploads/2025/02/A-Wide-Array-of-Resources-is-Needed-to-Meet-Growing-US-Energy-Demand.pdf

[21] *See* Indiana Office of Energy Development. "Indiana's Energy Policy: Electricity". (2025). Accessed at: https://www.in.gov/oed/indianas-energy-policy/electricity/#:~:text=Since%20its%20founding%20in%202019,%2C%20affordability%2C%20and%20environmental%20sustainability.

[22] NIPSCO 2024 IRP. Section 9, Figure 9-27, "Annual CO2 Emissions Projections for Portfolios", p. 273, and Fig. 9-28, "Annual CO2 Emissions Intensity Projections for Portfolios" on p. 274. Compare Portfolio D to the rest.

[23] NIPSCO 2024 IRP. Section 9.3.2, "Scorecard Summary", p. 282-283.

as the 45Q investment tax credit ("ITC") being reduced or withdrawn, which could make the economic case for CCUS untenable and ultimately result in a generating portfolio that is among the most polluting of the candidate portfolios. Regarding the economic viability of CCUS, the International Energy Agency recently forecast a decline in the use of carbon capture due to its failure to reach cost-competitiveness with renewable-based resources,[24] while a 2025 study out of Stanford University found that over the long term, renewable-based solutions are more cost-effective than carbon capture and more effectively eliminate CO2 emissions.[25] As costs for LDES in particular continue to decline, NIPSCO should reevaluate its gas expansion plan and replace a portion of that planned capacity with renewable and storage hybrids.

d) Exclusion of LDES from Portfolio D_CCUS.

The Company's scorecard analysis of the candidate portfolios shows Portfolio D_CCUS "performs best on the reliability and flexibility metrics, given larger amounts of flexible, long-duration dispatchable capacity".[26] However, no LDES were selected in Portfolio D_CCUS despite the "flexible, long-duration dispatchable capacity" characteristics of this resource class. Meanwhile, Portfolio F more than doubles storage capacity and includes LDES systems.[27] CGA encourages the Company to issue All-Source RFPs that invite bids for at least 100 MW from long-duration and multi-day storage technologies as the Company adds capacity over the planning period, and as noted above, to reevaluate whether LDES systems are ultimately more cost-effective than CCUS-enabled gas. This amount would represent 10% of the total near-term

[24] *See* Institute of Energy Economics and Financial Analysis. "CCS hopes sinking fast". (October 9, 2024). Accessed at https://ieefa.org/resources/ccs-hype-and-hopes-sinking-fast
[25] *See* Environmental Science & Technology. Mark Jacobson et al. "Energy, health, and climate costs of carbon-capture and direct-air-capture versus 100%-wind-water-solar climate policies in 149 countries". Accessed at: https://pubs.acs.org/doi/10.1021/acs.est.4c10686
[26] NIPSCO 2024 IRP, Section 9.3.2.
[27] NIPSCO 2024 IRP. Section 9, subsection 9.1.3.6.

storage needs identified in the proposed Action Plan, and be consistent with findings of LDES needs in Portfolios B and F.

II. Recommended improvements to the Short-Term Plan.

NIPCSO proposed a Short-Term Action Plan that outlines seventeen key actions the company will take through 2029.[28] CGA sees potential for improvements to six of these proposed actions, and proposes modifications to the Short-Term Plan that would bring more renewable and energy storage resources online, address the potential for renewable and storage resources to meet some level of data center demand, and encourage the development of pilot or demonstration projects utilizing LDES. Table 1 on the following page provides an overview of our suggestions and detailed discussion follows.

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[28] NIPSCO 2024 IRP. Section 1, Table 1-1, "2024 IRP Short-Term Action Plan", p. 3. The Short-Term Plan is discussed in detail in Section 9.

Table 1. CGA recommendations on select Short-Term Plan action items.

NIPSCO Action Item: *Select the best storage projects from the 2024 RFP, optimizing existing interconnection rights and federal tax credit opportunities.*
CGA Recommendations 1-2 (1) Add storage to 200 MW Templeton Wind project. (2) Develop LDES pilot/demo in response to proposals in 2024 RFP.
NIPSCO Action Item: *Procure short-term capacity as needed from the 2024 RFP, the MISO market, or through short-term bilateral capacity transactions.*
CGA Recommendation 3 Pursue short-term renewable and storage (if available) resource capacity contracts to replace or reduce the 350 MW of thermal capacity PPAs.
NIPSCO Action Item: *Perform additional diligence on the costs, feasible locations, and operational characteristics of new natural gas combined cycle and peaking additions necessary to meet new data center load.*
CGA Recommendation 4 Study the feasibility of meeting data center demand specifically with renewables, storage, and hybrids.
NIPSCO Action Item: *As needed, conduct a subsequent RFP(s) to identify additional resources that may be available with attributes that are consistent with those required to implement the preferred portfolio.*
CGA Recommendations 5-6 (5) Invite proposals from all resource classes. (6) Pursue diverse LDES (incl. non-lithium-ion) and storage hybrids (incl. at wind, solar, and thermal units).
NIPSCO Action Item: *Explore potential pilot projects from the RFP associated with emerging technologies, such as long duration energy storage and hydrogen.*
CGA Recommendation 7 Commit to developing LDES pilot or demonstration project prior to the next IRP.
NIPSCO Action Item: *File CPCN(s) and other necessary approvals for selected replacement projects.*
CGA Recommendation 8 Add co-located or hybrid storage to all replacement projects, incl. at renewable and thermal units.

Discussion of the recommendations in Table 1.

On increasing renewable and storage capacity (see recommendations 1, 3, 5-6, and 8 in Table 1. above)

Recommendation 1. NIPSCO received bids for more than 1,500 MW of standalone and co-located storage in response to the 2024 All-Source RFP,[29] from which the Company plans to "select the best storage projects … optimizing existing interconnection rights and federal tax credit opportunities."[30] NIPSCO should pursue storage projects that can be co-located at the site of any existing and upcoming generation and not just at solar and thermal sites. For example, NIPSCO could evaluate whether storage would be appropriate for the 200 MW Templeton Wind project coming online in 2027.

Recommendation 3. NIPSCO plans to procure up to 350 MW of short-term thermal capacity PPAs by 2029 to meet peak load capacity requirements once the Company's current Installed Capacity ("ICAP") declines as MISO's Direct Loss of Load ("DLOL") framework is implemented. NIPSCO should not limit this procurement to thermal resources; any RFP issued for this capacity should be resource neutral. Further, NIPSCO should specifically invite bids for LDES resources, which NIPSCO notes "provides strong capacity accreditation and hedges against load and intermittent resource output and uncertainty."[31]

Recommendations 5-6. NIPSCO plans to conduct additional RFPs as necessary, seeking resources "with attributes that are consistent with" the needs of the Preferred Portfolio. Rather than limiting any RFP to resources meeting those as-yet undefined criteria, NIPSCO should: (a)

[29] NIPSCO 2024 RFP. Section 4.6.1.1, "Storage at NIPSCO Sites in the RFP", p.124.
[30] NIPSCO 2024 IRP. Table 1-1, "2024 IRP Short-Term Action Plan".
[31] NIPSCO 2024 IRP, Section 9.4.3.4, pp. 291-292

invite proposals via All-Source RFPs, (b) encourage a diverse range of LDES responses (including from 10-hour, 100-hour, and non-lithium-ion developers), and (c) encourage storage hybrid proposals for all generating resource types (including solar, wind, and thermal generators).

Recommendation 8. NIPSCO plans to file permit applications for certain replacement projects. The Company, which will retire more than 1,300 MW of thermal capacity in the near-term,[32] has already demonstrated its interest in locating storage at the site of replacement generation via its 2024 RFP, noting in the IRP it "anticipates using generator replacement at Schahfer and Michigan City associated with storage development".[33] NIPSCO should co-locate storage resources at the site of these and other unit replacements occurring during the planning period without delay. MISO requires notice of the generating facility replacement at least one year from the date at which the existing generator will cease operations, meaning the Company would have plenty of time to initiate replacement storage at Schahfer and Michigan City.[34]

On meeting data center demand with renewables and storage (see Recommendation 4 in Table 1. above)

Recommendation 4. NIPSCO intends to "perform additional diligence on the costs, feasible locations, and operational characteristics of new natural gas combined cycle and peaking additions necessary to meet new data center load."[35] Reviewing the Company's Near-, Mid-, and Long-Term Action Plans,[36] it is clear that NIPSCO intends to meet the majority of any hyper-

[32] NIPSCO 2024 IRP. Executive Summary, "Action Plans", pp. 11-12.
[33] NIPSCO 2024 IRP. Section 4.6.1.1, "Storage at NIPSCO sites in the RFP", p. 124.
[34] *See* MISO. "FERC Electric Tariff: Attachment X, Generator Interconnection Procedures". Effective March 31, 2024.
[35] *Ibid.*
[36] NIPSCO 2024 IRP. Executive Summary, "Action Plans".

scaler data center load that materializes with gas combined cycle and peaking resources, only planning to add solar capacity to serve data centers in the Long-Term under the Reference Case, which assumes large load customer demand reaches 2,600 MW by 2035.[37] Especially given the corporate sustainability goals of Amazon, Google, Meta, and Microsoft,[38] which have either proposed or are developing data centers in Indiana,[39] NIPSCO should not limit its "additional diligence" to exploring how gas-fired resources alone can meet such demand, but also evaluate how combinations of solar, wind, and storage could serve a percentage of data center capacity.

On developing long-duration and multi-day energy storage pilot projects (see Recommendations 3 and 7 in Table 1. above)

NIPSCO proposes to "explore potential pilot projects from the [2024] RFP associated with emerging technologies, such as long-duration energy storage …".[40] This vital step towards incorporating LDES into its system more broadly as one of the key short-term actions can be improved by implementing the following two recommendations:

Recommendation 2. NIPSCO received three bids for LDES in the 2024 RFP for both iron-air storage and compressed CO2 systems.[41] CGA suggests that the Company expeditiously pursue one or more pilot projects with any of these bidders already demonstrating interest in developing projects for NIPSCO.

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[37] Under the Reference Case, large load customer demand would reach 600 MW by 2028 and 2,600 MW by 2035. In this scenario, NIPSCO would add 525 MW of solar in the 2035-2043 period. However, when the Emerging Load Sensitivity is added to the Reference Case forecast, data center load is projected to reach 3,200 MW by 2028 and up to 8,600 MW by 2035. *See* NIPSCO 2024 IRP, "Energy and Demand Forecast" beginning on p. 28.
[38] Amazon, Google, Microsoft, and Meta are members of the Clean Energy Buyers Association ("CEBA") and have data centers planned for Indiana. *See* CEBA Members (2025).
[39] *See* Building Indiana Business. "38 and growing: data centers draw big dollars to Indiana." (June 24, 2024). Accessed at: https://buildingindiana.com/stories/38-and-growing-data-centers-draw-big-dollars-to-indiana,3007
[40] NIPSCO 2024 IRP, Table 1-1.
[41] NIPSCO 2024 IRP. Section 4.6.1.2, "Long-duration storage in the RFP", p. 124.

Recommendation 7. Relatedly, and as the Company notes throughout the IRP, it is well understood that LDES technologies will play a critical role in the modern energy system – especially as it becomes more saturated with intermittent resources. NIPSCO should commit to *develop* – rather than merely explore – at least on pilot project in the latter half of the 2020s at a scale significant enough to demonstrate realistic project economics and operations (e.g. no less than 10 MW per project) Pilot projects implemented before the 2030s would provide the Company with critical firsthand experience with this new resource class, enabling NIPSCO to progress towards greater integration of LDES into its system in the future.

III. Concerns with the data center demand forecast.

NIPSCO produced a Reference Case forecast for data center load growth and another forecast applying a load growth sensitivity to the Reference Case to represent two potential futures: a "moderate" case that assumes two to three data center projects are contracted and reaches 2,600 MW of demand by 2035, and a more extreme case where data center load reaches up to 8,600 MW by 2035, driven by up to six projects.[42] NIPSCO attributes this potential to a number of factors, including favorable local and state economic development policies and geographic attributes attractive to data center developers. As discussed in Section II of these comments, Amazon, Google, Meta, and Microsoft are developing or planning projects in Indiana.[43] Indeed, the IRP notes that six data center projects were in some phase of development in NIPSCO's service area during the planning process.[44]

[42] NIPSCO 2024 IRP. Section 2, "Planning for the future", subsection 2.3.1.1 on p. 16.
[43] Building Indiana Business. "38 and growing: data centers draw big dollars to Indiana."
[44] NIPSCO 2024 IRP. Section 3, subsection 3.6, "Large economic development loads", pp. 79-81.

However, recent events suggest the level of data center growth previously predicted may represent a "bubble" that is about to burst: since this IRP was filed a Chinese company disrupted the global market after launching the vastly more energy-efficient DeepSeek AI[45] and Microsoft announced plans to cancel or scale back planned data centers in the US (albeit without indicating which projects would be affected)[46]. Furthermore, as noted in our introduction, the industry faces many challenges that NIPSCO's forecast may overestimate, including: siting and permitting issues, such as from Indiana advocates calling for a moratorium on data center development;[47] new tariffs imposed by the Trump administration on steel and aluminum imports;[48] and supply-chain bottlenecks.[49] Meanwhile, computational and operational efficiencies will continue to develop.[50] These dynamics will affect the pace and scale of data center growth, and CGA encourages the IURC to be wary of the potential for an inflated forecast.

Regardless of how much data center demand appears, a more nuanced approach to meeting data center load in the immediate term has been proposed by researchers at the Nicholas Institute for Energy, Environment & Sustainability at Duke University: utilizing existing "curtailment-enabled headroom" and incentivizing load flexibility to "add" an estimated 100 GW to the power

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[45] See Reuters. "DeepSeek leaves US AI firms racing to understand its success". (January 29, 2025). Accessed at: https://www.reuters.com/technology/artificial-intelligence/american-ai-firms-try-poke-holes-disruptive-deepseek-2025-01-28/. Also *see* CTech. "DeepSeek's AI disruption looms over Nvidia earnings report". (February 2, 2025). Accessed at: https://www.calcalistech.com/ctechnews/article/h1ogge951l

[46] *See* Investing.com. "Microsoft has cancelled data center leases in the U.S., TD Cowen says". (February 24, 2025). Accessed at: https://www.investing.com/news/stock-market-news/microsoft-has-cancelled-data-center-leases-in-the-us-td-cowen-says-3885228

[47] *See* Canary Media. "Indiana advocates press for data center pause amid rising energy demand". (February 17, 2025). Accessed at: https://www.canarymedia.com/articles/policy-regulation/indiana-advocates-press-for-data-center-pause-amid-rising-energy-demand

[48] *See* The White House. "President Donald J. Trump restores Section 232 tariffs". (February 11, 2025). Accessed at: https://www.whitehouse.gov/fact-sheets/2025/02/fact-sheet-president-donald-j-trump-restores-section-232-tariffs/

[49] In a recent analysis, CEBA forecast that data center growth would be more moderate than previously assumed by other industry analysts, due in part to supply-chain bottlenecks. *See* "Corporate demand for carbon emissions-free electricity grows to 275 GW over next decade". (January 30, 2025). Accessed at: https://cebuyers.org/blog/new-report-corporate-demand-for-carbon-emissions-free-electricity-grows-to-275-gw-over-next-decade/

[50] *See* Electric Power Research Institute ("EPRI"). "Powering intelligence: Analyzing artificial intelligence and data center energy consumption". (May 28, 2024). Accessed at: https://www.epri.com/research/products/000000003002028905

system.[51] In the study, "Rethinking load growth in U.S. Power Systems", the authors explored existing opportunities to serve large loads, largely through maximizing surplus interconnection capacity and demand response. Data centers focused on AI can more easily shift operations on both temporal and spatial bases, and the Electric Power Research Institute estimates that hybrid cloud solutions, for example, could reduce up to 25% of on-site energy usage during peak demand.[52] While this potential needs to be studied further, the research raises serious questions about how much load flexibility the data center industry might be capable of withstanding – and whether any level of new capacity can reasonably be avoided. Ultimately, however, we understand that a substantial amount of new capacity will be required to serve this new type of customer, but it is imperative for NIPSCO to evaluate carbon-free ways to serve data centers, including through any demand response opportunities and of course, with renewable energy and energy storage, as utilities in Nevada,[53] Wisconsin,[54] and elsewhere[55] are attempting to do.

IV. Conclusion

In conclusion, CGA recommends that NIPSCO:

[51] Nicholas Institute for Energy, Environment & Sustainability, Duke University. "Rethinking load growth in U.S. power systems". (February 11, 2025). Accessed at: https://nicholasinstitute.duke.edu/articles/three-key-takeaways-rethinking-load-growth-us-power-systems

[52] EPRI, "Powering intelligence: Analyzing artificial intelligence and data center energy consumption", p. 22.

[53] *See* Reuters. "Google partners with Nevada utility for geothermal to power data centers". (June 13, 2024). Accessed at: https://www.reuters.com/business/energy/google-partners-with-nevada-utility-geothermal-power-data-centers-2024-06-13/

[54] Milwaukee Business Sentinel. "Microsoft data center will be the state's largest electricity user. Power needs equal 300,000 homes". (January 25, 2025). Accessed at: https://www.jsonline.com/story/money/business/energy/2025/01/09/microsoft-data-center-will-need-power-equal-to-more-than-300000-homes/77481855007/

[55] For a geographically comparative example, the IURC approval of the settlement agreement in Indiana & Michigan Power's case on large load interconnection rules ordered I&M and the parties to propose a Clean Transition Tariff for large customers. *See* IURC Cause No. 46097, Final Order. Approved February 19, 2025.

(1) Increase the percentage of renewables and storage in the Preferred Portfolio and issue All-Source RFPs for any capacity procurement, including for generation intended to serve data center loads;

(2) Reduce its planned investment in gas capacity; and

(3) Develop and launch at least one LDES pilot by 2029 (e.g., the end of the Short-Term Plan).

Respectfully submitted,

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