**STATE OF INDIANA**

**INDIANA UTILITY REGULATORY COMMISSION**

| | |
|---|---|
| **VERIFIED PETITION OF INDIANAPOLIS POWER & LIGHT COMPANY D/B/A AES INDIANA ("AES INDIANA") AND AES PIKE COUNTY ENERGY STORAGE, LLC FOR (1) APPROVAL OF A STAND-ALONE BATTERY ENERGY STORAGE SYSTEM PROJECT AT PETERSBURG STATION ("PIKE COUNTY PROJECT"), INCLUDING A JOINT VENTURE STRUCTURE BETWEEN AN AES INDIANA SUBSIDIARY AND ONE OR MORE TAX EQUITY PARTNERS AND A CAPACITY AGREEMENT AND CONTRACT FOR DIFFERENCES BETWEEN AES INDIANA AND THE AES SUBSIDIARY PROJECT COMPANY THAT HOLDS THE PIKE COUNTY PROJECT, AS A CLEAN ENERGY PROJECT AND ASSOCIATED TIMELY COST RECOVERY UNDER IND. CODE § 8-1-8.8-11; (2) APPROVAL OF ACCOUNTING AND RATEMAKING FOR THE PIKE COUNTY PROJECT, INCLUDING AN ALTERNATIVE REGULATORY PLAN UNDER IND. CODE § 8-1-2.5-6 TO FACILITATE AES INDIANA'S INVESTMENT IN THE PROJECT THROUGH A JOINT VENTURE; (3) ISSUANCE OF AN ORDER PURSUANT TO IND. CODE § 8-1-2.5-5 DECLINING TO EXERCISE JURISDICTION OVER THE JOINT VENTURE, INCLUDING THE PROJECT COMPANY, AS A PUBLIC UTILITY AND DECLINING TO EXERCISE JURISDICTION UNDER TO IND. CODE § 8-1-8.5-2; AND (4) TO THE EXTENT NECESSARY, ISSUANCE OF A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY PURSUANT TO IND. CODE § 8-1-8.5-2 FOR THE DEVELOPMENT OF THE PIKE COUNTY PROJECT BY A WHOLLY OWNED AES INDIANA SUBSIDIARY** | **CAUSE NO. 45920** |



**PETITIONER'S SUBMISSION OF DIRECT TESTIMONY OF**
**DANIELLE S. POWERS**

Indianapolis Power & Light Company d/b/a AES Indiana ("AES Indiana" or "Petitioner"), by counsel, hereby submits the direct testimony and attachments of Danielle S. Powers.

Respectfully submitted,

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## CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing was served this 18th day of July 2023, by electronic transmission, upon the following:

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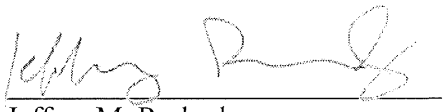

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VERIFIED DIRECT TESTIMONY

OF

DANIELLE S. POWERS

ON BEHALF OF

INDIANAPOLIS POWER & LIGHT COMPANY

D/B/A AES INDIANA AND AES PIKE COUNTY ENERGY STORAGE, LLC

SPONSORING AES INDIANA ATTACHMENT DSP-1

**VERIFIED DIRECT TESTIMONY OF DANIELLE S. POWERS**
**ON BEHALF OF AES INDIANA AND AES PIKE COUNTY ENERGY STORAGE, LLC**

## 1. INTRODUCTION

**Q1. Please state your name and business address.**

A1. My name is Danielle S. Powers. My business address is 293 Boston Post Road West, Suite 500, Marlborough, Massachusetts 01752.

**Q2. By whom are you employed and in what position?**

A2. I am an Executive Vice President with Concentric Energy Advisors, Inc. ("Concentric").

**Q3. Please describe Concentric.**

A3. Concentric is a management consulting and economic advisory firm focused on the North American energy and water industries. Concentric specializes in regulatory and litigation support, transaction-related financial advisory services, energy market strategies, market assessments, energy commodity contracting and procurement, economic feasibility studies, and capital market analyses and negotiations.

**Q4. What are your responsibilities in your current position?**

A4. As a consultant, my responsibilities include assisting clients in identifying and addressing business issues. My primary areas of focus are wholesale energy market design and operation, resource planning, and litigation.

**Q5. Please summarize your educational background.**

A5. I have a Bachelor of Science in Mechanical Engineering from the University of Massachusetts Amherst and a Master of Business Administration from Bentley University.

**Q6. Please summarize your professional qualifications.**

A6. I have approximately thirty years of direct experience in the public utility industry. I have worked for an investor-owned utility, an independent system operator, and most recently as a consultant. I have managed and/or participated in a wide variety of consulting engagements. A copy of my CV and testimony listing is attached as AES Indiana Attachment DSP-1.

**Q7. Have you previously testified in any regulatory proceedings?**

A7. Yes. I have provided expert testimony or reports before the Indiana Utility Regulatory Commission ("IURC" or "the Commission"), the Federal Energy Regulatory Commission, the Illinois Commerce Commission, the Connecticut Siting Council, the Massachusetts District Court, the Regulatory Commission of Alaska, the New York Public Service Commission, the United States Bankruptcy Court, the Missouri House Utilities Commission, and the Indiana Senate Utilities Committee. My previous testimony has typically addressed issues related to wholesale energy market design and resource planning.

**Q8. On whose behalf are you testifying in this proceeding?**

A8. I am submitting this testimony on behalf of AES Indiana and AES Pike County Energy Storage, LLC, also generally referred to as the "Company" for ease of reference.

**Q9. Did Concentric support the Company's 2021 Certificate of Public Convenience and Necessity filing for various generation projects?**

A9. Yes. Concentric submitted testimony in support of AES Indiana's petition to the Commission for the issuance of a Certificate of Public Convenience and Necessity ("CPCN") for the acquisition and development of Petersburg Energy Center, a solar

electric generation facility coupled with a battery energy storage system located in Pike County, Indiana, and for the Hardy Hills Solar Facility, a solar electric generation facility located in Clinton County, Indiana. These cases were docketed as Cause No. 45591 and 45493, respectively.

## 2. PURPOSE OF TESTIMONY

**Q10. What is the purpose of your direct testimony in this proceeding?**

A10. My direct testimony is focused on the analytical support services related to the economic decision modeling in support of AES Indiana's All Source Request for Proposals ("RFP") issued in April of 2022 ("All Source RFP"). As discussed by AES Indiana witness Cooper, numerous proposals were considered, including wind, solar, solar + storage, and battery storage resources under a mix of build-transfer structures and power purchase agreements ("PPAs"). Under Phase 2 of the analysis, these proposals were screened down to 26 distinct offers to provide energy and capacity and then down to a list of six distinct offers for additional analysis and negotiations under Phase 3 of the analysis.

**Q11. What support did you provide AES Indiana in the All Source RFP?**

A11. Concentric developed an analytical model to rank the relative costs and benefits of each proposal against the other proposals. This Ranking Analysis model looked at the present value revenue requirement ("PVRR") of the shortlisted proposals submitted in response to the All Source RFP. The results from the Ranking Analysis of the shortlisted proposals represented the quantitative portion of the criteria that AES Indiana used in conjunction with its qualitative criteria in order to develop a list of proposals on which to enter into negotiations. In addition to the Ranking Analysis, Concentric provided input and

recommendations on certain modeling assumptions as described in more detail below.

**Q12. Are you sponsoring any attachments?**

A12. Yes. I am sponsoring AES Indiana Attachment DSP-1 which is a copy of my CV and testimony listing.

**Q13. Was this attachment prepared or assembled by you or under your direction and supervision?**

A13. Yes.

**Q14. Did you submit any workpapers?**

A14. Yes. I am submitting the Ranking Analysis model for Phase 2 and 3 as workpapers.

## 3. MODEL PURPOSE & FRAMEWORK

**Q15. Please describe the purpose of the Ranking Analysis.**

A15. The purpose of the Ranking Analysis was to analyze the cost/benefit to AES Indiana's customers of each of the 26 Phase 2 proposals identified to meet the capacity need. The Ranking Analysis calculated the impact of each individual proposal on AES Indiana's total portfolio PVRR – where a proposal that demonstrates a negative PVRR is expected to have a downward impact on the Company's total portfolio PVRR. The more negative a proposal's PVRR impact, the more cost-effective the proposal is assumed to be. The Ranking Analysis was completed in two phases: Phase 2, which analyzed and compared 26 proposals, and Phase 3, which analyzed and compared a short-listed group of six proposals with refined inputs and assumptions as more detail became known about each of

the Phase 3 proposals.

**Q16. How does your analysis differ from the PVRR analysis described by AES Indiana witness Miller?**

A16. Our Ranking Analysis is an economic decision-making tool used to estimate each proposal's impact relative to other proposals, irrespective of the Company's portfolio. AES Indiana witness Miller's PVRR analysis looks at the impact of the costs associated with the Pike County facility on the total PVRR of each portfolio contained in the 2022 IRP.

**Q17. Please describe the framework of the Ranking Analysis model.**

A17. The Ranking Analysis model was structured to accept proposal cost data provided by AES Indiana on an ongoing basis. The Phase 2 and 3 models evaluated 26 and six proposals, respectively, through a standard revenue requirement analysis. The revenue requirement considered the ultimate net cost or benefit of each proposal. The revenue requirement analysis included expenses (*i.e.*, fixed Operating and Maintenance ("fixed O&M") and insurance expense), return on and of rate base, and revenues (energy, avoided cost of capacity, and Renewable Energy Certificates ("RECs")). The net present value ("NPV") of the revenue requirement was evaluated using a discount rate of 6.7%. The discount rate is discussed further below.

**Q18. How did you evaluate and compare the PVRR across proposals?**

A18. Each of the 26 proposals evaluated in Phase 2 represented various resource types, proposal lives, contract lives, and contract structures. Because of these differences, the analysis was evaluated over standardized lengths of time (terms), and units of measurement (PVRR, and

PVRR per megawatt ("MW") of unforced capacity ("UCAP")).

**Q19. How did the model address asset transfers vs. contracted proposals?**

A19. Asset transfers and utility builds were modeled as rate base additions whereby the initial investment is recovered through depreciation expense and return on rate base. Contracted proposals were treated as a straight pass-through expense to customers, meaning there is no earned return to the Company on the contract expense. The expense associated with these contracts was calculated in a production cost model known as EnCompass and recovered through the variable O&M ("VOM") expense component.

**Q20. How did you evaluate proposals with different term lengths?**

A20. The proposals being evaluated had contract terms that ranged from 15 years to 30 years, and useful lives that ranged from 20 years to 35 years. Proposals with varying term lengths had to be evaluated over a common term in order for results to be comparable. This required making assumptions about how to treat a given proposal after its contract had expired or after its expected useful life had ended. Because of the need to make these assumptions, multiple term lengths were evaluated. The model was based on a 35-year life, but Concentric also evaluated results across term lengths of 20 years and 30 years for all proposals in order to assess the impact of term length. Proposals were "filled in" with replacement expenses and revenues in the remaining years after the contracts or useful lives expired. Further details of how we treated "end effects", i.e., how costs and revenues were filled in in the outer years of the proposal term if the contract had expired, are discussed in

Section V, End Effects.

**Q21. You noted above that three units of measurement were used in the evaluation. What were they and why are they appropriate?**

A21. PVRR and PVRR per MW of UCAP were the two units of measurement, or "metrics", that were evaluated across varying term lengths, and using different sensitivities. A PVRR was considered because it represents the incremental cost or benefit to customers of the given proposal in isolation (i.e., without considering the results of two or more proposals stacked together). The PVRR per MW of UCAP was also considered, as AES Indiana procures capacity to meet the needs of its customers. Therefore, it is reasonable to look at this product in question— capacity— on a per-unit basis. In prior project evaluations, PVRR per MWh was evaluated to provide a clearer picture of the differences in resource output relative to the investment at hand, across disparate proposals structures and resource types. However, PVRR per MWh is not a useful metric when examining storage projects as those projects draw more MWhs from the grid than they push back to the grid. PVRR per MWh was not used in this analysis. PVRR and PVRR per MW of UCAP represent the most relevant metrics for evaluation.

**Q22. You mention scenario analysis above. Are term length and metrics all that comprise a given "scenario"?**

A22. No. In addition to term length and results metrics, proposals were stress-tested across these varying scenarios with "sensitivities" for REC prices.

**Q23. How does a scenario analysis differ from a sensitivity analysis?**

A23. A sensitivity analysis can vary one key assumption within a scenario or test alternative

perspectives to gain additional economic insight into key drivers. A sensitivity for REC prices was used here to supplement the broader scenario analysis.

**Q24. Why did you run a sensitivity?**

A24. A sensitivity was used to ratify the results of the analysis and identify proposals or areas that were potentially susceptible to changes in results if certain assumptions changed.

**Q25. What price sensitivity was considered?**

A25. Concentric and AES Indiana modeled a REC price sensitivity. The model was built to accommodate RECs at varying price points. RECs were priced between $0/MWh and $4/MWh, including a REC price forecast obtained from Wood Mackenzie ("WoodMac").

**Q26. Can you describe the combination of scenarios and sensitivities analyzed?**

A26. Yes. Between the Phase 2 and Phase 3 analyses, three term lengths, two metrics, one fill in scenario, and one sensitivity (REC cases) were analyzed. We focused on results for the WoodMac REC case, and on the PVRR and PVRR per MW UCAP metrics for the 30 and 35-year terms.

**Q27. Did you observe disparate results under varying sensitivities?**

A27. No. The sensitivity confirmed that results were fairly, though not exclusively, steady in rank and order of magnitude.

## 4. MODEL INPUTS & ASSUMPTIONS

**Q28. Did AES Indiana provide input assumptions in addition to information provided by each bidder?**

A28. Yes. There are several input assumptions required to analyze and rank each of the

resources proposed by bidders. Many of these inputs are included in the information provided by the bidder, but there are others that are more generalized inputs that apply across all resources. As discussed below, these input assumptions included tax rates, discount rate, insurance, depreciable life, property tax, fixed O&M, net site value, and tax equity impacts.

**Q29. What was the discount rate?**

A29. The return on rate base was calculated using a weighted average cost of capital ("WACC") of 7.3%, which reflects the Company's WACC. For calculating a net present value revenue requirement, a discount rate of 6.7% was used.

**Table 1: Discount Rate**

| WACC Components | Weighting | Cost of Capital | WACC | Discount Rate (COD Adjusted for Effective Tax Rate) |
|---|---|---|---|---|
| Debt | 50.8% | 4.8% | 2.4% | 1.8% |
| Preferred | 1.7% | 5.4% | 0.1% | 0.1% |
| Equity | 47.5% | 10.0% | 4.7% | 4.7% |
| **Total** | **100.0%** | | **7.3%** | **6.7%** |

The difference between the WACC used to calculate return on rate base, and the overall discount rate used to discount after tax cash flows, is that the cost of debt is adjusted by the effective tax rate.

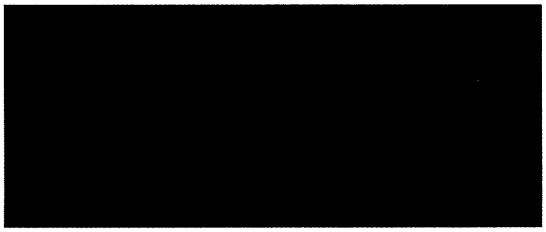
**Q30. What effective tax rate was assumed?**

A30. An effective tax rate of 24.9% was used, representing a state tax rate of 4.9% and a federal tax rate of 21%.

**Q31. How was insurance expense calculated?**

A31. Insurance rates were provided by AES Indiana personnel based on recent experience with rates applicable to various resource types and applied as an annual expense as percentage of installed cost.[1] The following rates per $100 worth of value were applied to installed cost.

**Table 2: Insurance Rates**



**Q32. What depreciable lives were assumed for asset transfers?**

A32. The assumptions used for book lives and tax lives for each type of resource represented in an asset transfer bid were provided by several Company experts. These assumptions were informed by AES Indiana's IRP, Company internal experts, and Sargent & Lundy. These assumptions are shown in the table below.

**Table 3: Asset Lives by Resource Type**

| Asset Class | Book Lives (Yrs) | Tax Lives (Yrs) |
|---|---|---|
| Solar | 35 | 5 |
| Storage | 20 | 7 |
| Solar + Storage | 25 | 5 |
| Wind | 30 | 5 |

**Q33. How was property tax calculated?**

A33. Property tax was calculated by AES Indiana's property tax subject matter expert based on

[1] Excludes interconnection upgrade costs.

installed cost, tax depreciate expense, and Indiana's property tax construct.

**Q34. Did AES Indiana consider tax equity in this process?**

A34. Yes. AES Indiana will use a tax equity partner to realize the tax benefits available to customers. As such, AES Indiana assessed the tax equity impacts to customers for any proposal assumed to be eligible for the Investment Tax Credit ("ITC") or the Production Tax Credit ("PTC"). AES Indiana received proposals for solar, solar + storage, and wind units with varying degrees of tax credit eligibility. AES Indiana witness Salatto provided the tax credit input used the Ranking Analysis model.

**Q35. Please describe your role in this process as it relates to the determination of assumptions.**

A35. Concentric advised AES Indiana on several of these assumptions, such as fixed O&M and site value. In terms of fixed O&M, I compared AES Indiana's fixed O&M assumptions to publicly available information on fixed O&M assumptions for the resource types being modeled. In addition, I relied on my experience in calculating these costs for various resource types. In terms of site value, I researched estimates of site value for retired power plants across the country and in the MidContinent Independent System Operator, Inc. ("MISO") region. These estimates varied based largely on the intended use of the site and the remediation and restoration activities required. The recommended site value was based on this research.

**Q36. Do you consider these assumptions reasonable?**

A36. Yes. I independently reviewed the assumptions discussed above and found them to be

reasonable.

**Q37. Did AES Indiana provide other inputs into the Ranking Analysis model?**

A37. Yes, AES Indiana provided results from its EnCompass production cost model that were used in the PVRR model. These outputs included variable O&M costs, energy revenue, energy volumes (MWhs), battery charging costs, fuel costs, and emissions costs. The production cost model and model results are further discussed by AES Indiana witness Miller.

**Q38. Please describe the purpose of the production cost model.**

A38. A production cost model is used to calculate the hourly production costs of resources used to meet expected system load. Specifically, the production cost model integrates detailed representations of a system's load and resources that enable the calculation of hourly production costs that reflect the economic dispatch of generation, the expected hourly production from renewable generation, and the optimization of energy storage.

**Q39. How were the outputs from the production cost model provided by AES Indiana used in the Ranking Analysis?**

A39. In addition to calculating the hourly production costs for each resource modeled, the production cost model produces hourly gross revenues, variable O&M costs, emissions costs, and energy production for each resource modeled. Each of these outputs was input into the Ranking Analysis model to calculate and compare the PVRR for each of the Phase 2 and Phase 3 resources.

**Q40. Did Concentric review the outputs of the production cost model for reasonableness?**

A40. Yes. In the process of using the outputs from the production cost model as inputs into the

Ranking Analysis model, I reviewed the outputs from the production cost model. This review involved assessing the directional impact of certain assumptions on the outputs from the production cost model, and generally assessing the reasonableness of these outputs.

**Q41. Did Concentric advise AES Indiana on any other input assumptions?**

A41. Yes. Concentric advised AES Indiana on a method to estimate ancillary service ("AS") revenues for batteries and the battery components of hybrid resources. The EnCompass model does not calculate ancillary services prices, therefore AS revenues were considered separately for all resource types.

Through consultation with AES Indiana, it was determined that thermal units receive a de minimis portion of their revenue from ancillaries so AS revenues were not considered for thermal resource bids. Standalone renewable facilities (solar and wind) were also assumed to have zero AS revenue given their technical characteristics. A battery AS revenue adder was applied to the standalone battery and the battery component of hybrid facilities.

**Q42. What other modeling assumptions were included in the Ranking Analysis?**

A42. In addition to the assumptions and inputs discussed above, there were additional assumptions required to address the various structures represented in the responses to the All Source RFP, such as proposals that involve ownership of assets with defined useful lives to PPAs with different and varying contract term lengths. As discussed above, an assumption must be made to "fill-in" the remaining years of the analysis period to be able to compare the net present value of costs for all supply options over the forecast period. The assumptions around the "fill-in" approach, or end effects, are described in further detail

below.

## 5. END EFFECTS ANALYSIS

**Q43. Did the All Source RFP allow for different resource ownership structures and PPA term lengths?**

A43. Yes. PPAs were offered for various contract lengths and asset transfers and utility builds had different assumed economic lives based on technology type.

**Q44. What assumptions were made in the Ranking Analysis to address different proposal structures?**

A44. The Ranking Analysis involved assessing the PVRR for each resource and proposed structure over the life of the asset or the term of the PPA. In order to compare apples to apples (i.e. PPAs to build-transfers to utility builds over the same time period), the period over which the contracts, asset transfers, and utility builds were analyzed had to be consistent. Therefore, an approach was adopted that normalized the forecast period over which the proposals were analyzed.

**Q45. How did Concentric approach the normalizing of the forecast period?**

A45. Concentric recommended an approach to filling in the years prior to the commercial operation date with a capacity purchase at the MISO gross Cost of New Entry ("CONE") value as modeled in AES Indiana's 2022 IRP, which is the levelized fixed cost of building and operating a gas turbine and implicitly includes energy-related variable expenses.

## 6. TREATMENT OF CAPACITY REVENUES

**Q46. How were capacity revenues treated in the Ranking Analysis?**

A46. Similar to the fill-in issues related to resources and contracts with unequal terms and

capacity values, assumptions were made to address the various contract lengths across different resource types to meet the identified capacity need. Capacity revenues reflected the avoided cost of capacity based on the assumption that the capacity required to meet the stated capacity need would not need to be provided. This approach utilized the IRP annual capacity price forecast for Zone 6, which assumes a gross CONE value. The treatment of capacity as an avoided cost acted as an offset to the cost of capacity to "fill-in" the remaining years of the term being analyzed.

## 7. QUALITY CONTROL AND ACCURACY

**Q47. How did Concentric ensure the accuracy of the model mechanics?**

A47. A standard practice in our consulting firm is to perform a peer review of any model that is developed by our consultants as part of a client engagement. This peer review involves a review of the model and the model mechanics by an experienced modeling expert or experts. A thorough auditing exercise was performed.

**Q48. Were the model results also reviewed for reasonableness?**

A48. Yes. Team members were involved in each iteration of the Ranking Analysis model. With each iteration, our team members focused not only on the reasonableness of the modeling approach, but also on the reasonableness of the model results. This is standard practice among our consulting team to ensure that our work is not only accurate, but also produces results that are rational.

## 8. RANKING ANALYSIS MODEL RESULTS

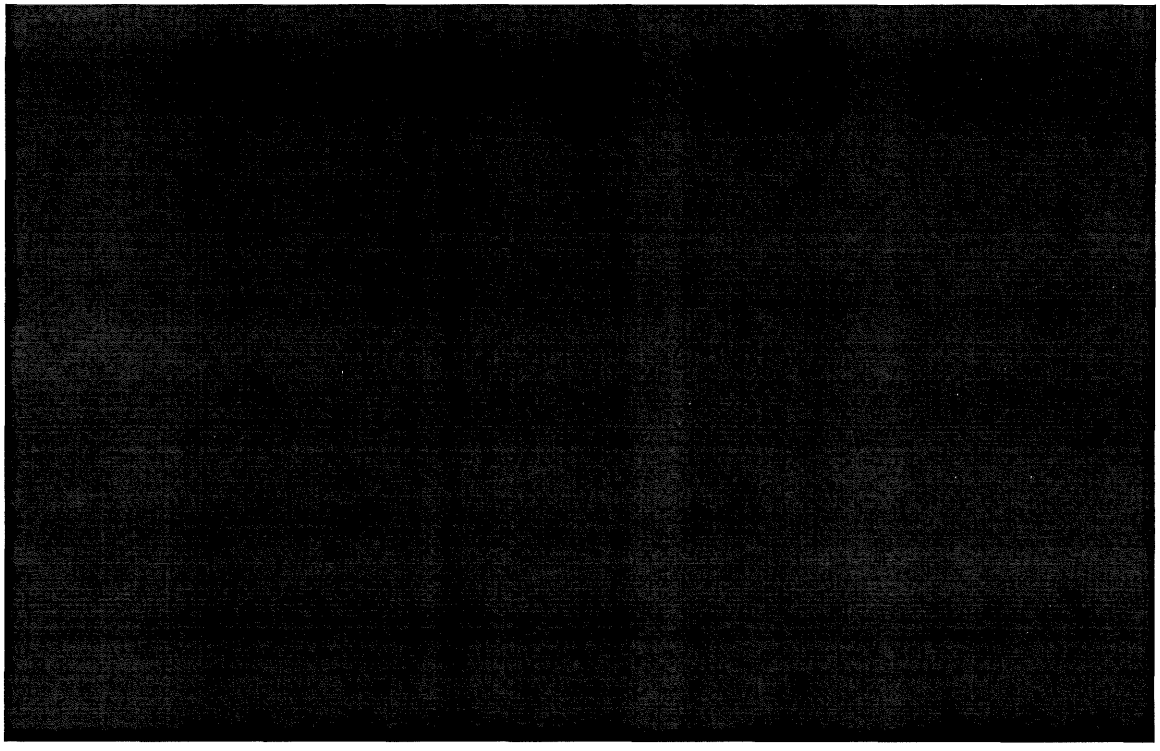
**Q49. Which metrics were used to evaluate the results in both Phase 2 and Phase 3 Ranking Analysis?**

A49. We considered the PVRR and PVRR per MW UCAP metrics. We also focused on the WoodMac REC sensitivity.

**Q50. Please provide the results from the Phase 2 Ranking Analysis model.**

A50. The results of this Ranking Analysis, as shown in Figure 1, represent the quantitative assessment of the proposals received in response to the RFP for capacity. AES Indiana witness Cooper discusses the qualitative assessment of the proposals and how the qualitative and quantitative assessments were used to make determinations about which proposals to advance to Phase 3.

**Figure 1: Phase 2 Ranking Analysis Results – 30 & 35-year Metrics**



**Q51. How should these results be interpreted?**

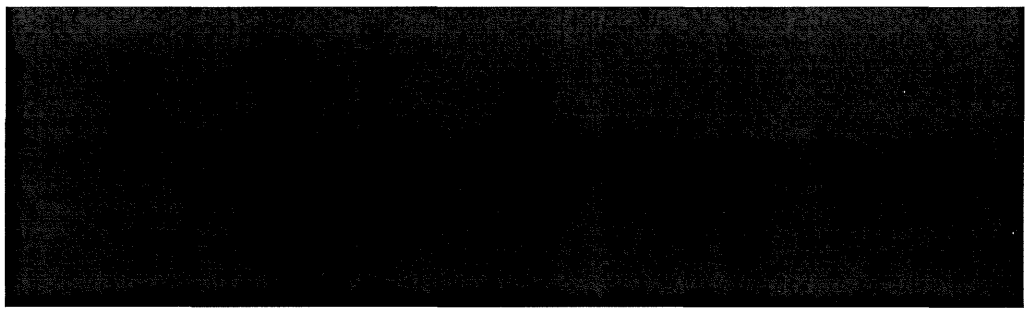
A51. A negative value represents a result that is expected to have a downward impact on the Company's total portfolio PVRR. A positive result is expected to have an upward impact

on the Company's total portfolio PVRR. The more negative a proposal's PVRR impact, the more cost-effective the proposal is assumed to be. The higher a proposal's PVRR impact, the less cost-effective the proposal is assumed to be. The results are formatted such that dark green represents a more cost-effective result in PVRR terms than a lighter green, in the relative ranking of the proposals.

**Q52. Please provide the results from the Phase 3 Ranking Analysis.**

A52. Please see Figure 2 for Phase 3 results.

**Figure 2: Phase 3 Ranking Analysis Results – 30 & 35-Year Metrics**



**Q53. Why do you consider the PVRR results from the Ranking Analysis reasonable?**

A53. The model used in the Ranking Analysis is intended as an economic decision-making tool for comparing across dissimilar proposals rather than a ratemaking tool. A ranking analysis utilizing a PVRR measure is a reasonable way to estimate the relative costs or benefits of a given proposal. While Concentric is comparing proposals in PVRR terms, the Company's proposed cost recovery reflects the proposed Joint Venture structure associated with the proposed Project. The PVRR results, while not identical to the Company's cost recovery request, provide a directional revenue requirement impact to customers.

**Q54. Are there any other notable observations?**

A54. Yes. As can be observed in Figure 2, within the metric that is most relevant to filling the stated capacity need, PVRR per MW UCAP, the range around the results is relatively small across the Phase 3 proposals, and Pike County ES (B) proposed by the Company represents the lowest result.

**Q55. Does this conclude your direct testimony?**

A55. Yes.

**VERIFICATION**

I, Danielle S. Powers, Senior Vice President, affirm under penalties for perjury that the foregoing representations are true to the best of my knowledge, information, and belief.

Dated July 18, 2023.

Danielle S. Powers

CONCENTRIC

**DANIELLE S. POWERS**
EXECUTIVE VICE PRESIDENT

Ms. Powers has over 30 years of experience in the energy industry with specific expertise in the areas of wholesale power market design and operations, resource planning, power generation, and transmission system planning and operations. Ms. Powers has been extensively involved in the design, implementation, and operation of installed capacity markets across North America. She has experience in electric resource planning, including assessing the costs and benefits of various energy sources, including renewable energy sources, to support a resource portfolio that can meet reliability, environmental and cost objectives. Ms. Powers has also prepared market assessments and forecasts and has advised several clients on the procurement of competitive electricity. She has also evaluated regional transmission tariffs, assessed the benefits of new transmission projects, and analyzed the costs and benefits of transmission company and transmission project sales and acquisitions.

## Representative Project Experience

Wholesale Market Assessment and Design

- Ms. Powers has worked with ISO-NE for the past 14 years supporting analysis on wholesale energy and capacity market implementation and operation. This work has involved analyzing the cost of installing and operating a variety of candidate technologies for new entry into the market, production cost modeling to calculate the expected energy and ancillary service revenues that would be earned by the technology, and financial analysis to calculate the appropriate capital structure for the new technology. These technologies included gas-fired generation, wind and solar resources, demand response and energy efficiency resources, and energy storage resources. As part of her responsibility for the design and approval of the New England Forward Capacity Market for ISO-NE, Ms. Powers was responsible for managing the market design effort, designing the processes and procedures around resource qualification, resource bids and offers, auction clearing determination of installed capacity requirements and market settlement. She was responsible for all stakeholder interactions and meeting facilitation involving approximately 20 meetings over a six-month period. This involved forming several external project teams made up of New England participants to gather input on major market design elements to ensure that the final design reflected the involvement of affected parties and addressed their business concerns.

Resource Planning

- Ms. Powers has provided a broad spectrum of resource planning services to electric and combination utilities throughout North America. This work has included the evaluation of the feasibility of various energy sources, including renewable energy sources such as solar, wind, and hydroelectric power, as well as non-renewable sources such as natural gas, coal, and nuclear power. This work has also involved the assessment of the costs and benefits of

various energy efficiency and demand-side management strategies to reduce energy consumption and lower costs for consumers. Ms. Powers has provided third-party assessments of resource plans and procurement decisions and has managed competitive solicitations for power on behalf of several clients. Ms. Powers has supported the implementation of approved resource plans with underlying analysis to support certificates of public need and necessity.

Expert Testimony and Litigation Support

- Ms. Powers has provided expert testimony in regulatory proceedings on energy and capacity market design and operational issues, as well as transmission rights of first refusal. In addition to developing and sponsoring expert testimony, specific services provided include collaborating with counsel as well as business and technical staff to clients to develop litigation strategies; preparing and reviewing discovery and briefing materials; and preparing materials and participating in sessions with regulators and interveners.

Transmission Planning and Interconnections

- Ms. Powers has worked with several clients in evaluating transmission alternatives, both regulated and competitive. This work has involved evaluating transmission tariffs, evaluating and managing interconnection processes, preparing and negotiating interconnection contracts, and performing project cost reconciliations. Ms. Powers has provided consultation on required Federal Energy Regulatory Commission (FERC) filings and is responsible for staying abreast of relevant regulatory issues to ensure compliance with regional and FERC requirements.

Asset Sales

- Ms. Powers has managed and been involved in the sale of over 12,000 MW of generation resources, purchased power contracts, and transmission assets. This work included involvement in the areas of marketing, labor, environmental, transmission, market analysis, regulatory, terms of sale, legal, transition power sales, and bid evaluation. Acted as client representative for bidder groups providing technical expertise and assistance. Provided full support for the initial and final due diligence processes.

Retail Energy Planning and Business Development

- Ms. Powers has been involved in securing electricity supply for various buying groups and end users. She has developed strategic energy plans to enable the competitive energy procurement and energy usage analysis. This work has included the development and implementation of business plans to evaluate the opportunities and risks associated with alternative supply of energy.

Power Plant Operations and Engineering

- In her role as a production engineer, Ms. Powers managed several large-scale projects involving environmental controls and operational optimization. This work involved having overall responsibility for the operation, maintenance, and overall performance of station

pollution control systems. She has managed all facets of various plant construction projects including project engineering, construction supervision, project estimating and scheduling, and budget tracking/analysis.

## PROFESSIONAL HISTORY

**Concentric Energy Advisors, Inc. (2005 – Present)**
Executive Vice President
Senior Vice President
Vice President
Assistant Vice President

**ISO New England (2003 – 2005)**
Principal Analyst

**Concentric Energy Advisors, Inc. (2003)**
Executive Advisor

**Navigant Consulting, Inc. (1999 – 2003)**
Senior Engagement Manager

**XENERGY, Inc. (1997 – 1999)**
Manager of Strategic Energy Planning

**New England Power Company (1989 – 1997)**
Intern, Production Engineer

## EDUCATION

**Bentley University**
M.B.A., *magna cum laude*, 2000

**University of Massachusetts, Amherst**
B.S., Mechanical Engineering, 1988

## PROFESSIONAL AFFILIATIONS

Board Member – Atlantic Power Corporation
EIT Certification
Member of the Massachusetts Restructuring Roundtable
Total Quality Management - Certified Team Facilitator

| SPONSOR | DATE | CASE/APPLICANT | DOCKET | SUBJECT |
|---|---|---|---|---|
| **Regulatory Commission of Alaska** | | | | |
| Chugach Electric Association | 4/22 | Chugach Electric Association | Docket No. U-22-010 | Power Pool Exchange and Settlement |
| **Connecticut Siting Council** | | | | |
| Competitive Power Ventures | 11/14 | Competitive Power Ventures | CT Siting Council 192b | Expert Report regarding Certificate of Environmental Compatibility and Public Need |
| **Federal Energy Regulatory Commission** | | | | |
| ISO New England | 8/09 | ISO New England | Docket No. ER09-1424-000 | Resource Planning, Market Design & Rules, Power contract structure & negotiation |
| ISO New England | 1/17 | ISO New England | Docket No. ER17-795-000 | Wholesale Market Design |
| ISO New England | 12/20 | ISO New England | Docket No. ER21-787-000 | Wholesale Market Design |
| ISO New England | 4/21 | ISO New England | Docket No. ER21-1637-000 | Generation Procurement, Market Assessments, Wholesale Market Design & Implementation |
| **Illinois Commerce Commission** | | | | |
| Ameren Illinois Company | 5/19 | Ameren Illinois Company | Docket No. 18-1617 | Acquisition of a transmission line and generating asset |
| **Indiana Senate Utilities Committee** | | | | |
| Indiana Energy Association | 4/23 | | | Transmission Right of First Refusal |
| **Indiana Utility Regulatory Commission** | | | | |
| Indianapolis Power & Light | 2/21 | Indianapolis Power & Light | 45493 | Resource Planning, Generation Procurement & CPCN, Revenue Requirement |
| Indianapolis Power & Light | 7/21 | Indianapolis Power & Light | 45591 | Resource Planning, Generation Procurement & CPCN, Revenue Requirement |
| Indianapolis Power & Light d/b/a AES Indiana | 12/22 | Indianapolis Power & Light d/b/a AES Indiana | 45832 | Resource Planning, Generation Procurement & CPCN, Revenue Requirement |

| SPONSOR | DATE | CASE/APPLICANT | DOCKET | SUBJECT |
|---|---|---|---|---|
| Indianapolis Power & Light d/b/a AES Indiana | 1/23 | Indianapolis Power & Light d/b/a AES Indiana | | Resource Planning, Generation Procurement & CPCN, Revenue Requirement |
| **Massachusetts District Court** | | | | |
| GDF SUEZ Energy North America | 10/14 | Donna West vs. FirstLight Power Resources Services, LLC, et al. | Donna West vs. FirstLight Power Resources Services, LLC, et al. | Resource Planning, Market Design & Rules |
| **Missouri House Utilities Committee** | | | | |
| Ameren | 3/23 | | | Transmission Right of First Refusal |
| **New Brunswick Energy & Utilities Board** | | | | |
| New Brunswick Power Corporation (NB Power) | 11/22 | New Brunswick Power Corporation (NB Power) | Matter 541 2023/24 | Fuel & Purchased Power Markets and Forecasts |
| **New York State Public Service Commission** | | | | |
| Helix Generation | 5/22 | Helix Generation | Case 17-E-0016 | Vertical Market Power Analysis |
| **United States Bankruptcy Court** | | | | |
| Brazos Electric Power Cooperative, Inc. | 1/22 | Brazos Electric Power Cooperative, Inc. | Case No. 21-30725 (DRJ) | Wholesale Power Market Analysis, Damages Calculation |