

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

**VERIFIED PETITION OF INDIANAPOLIS)
POWER & LIGHT COMPANY D/B/A AES)
INDIANA (“AES INDIANA”) FOR (1) ISSUANCE)
TO AES INDIANA OF A CERTIFICATE OF)
PUBLIC CONVENIENCE AND NECESSITY FOR)
THE ACQUISITION AND DEVELOPMENT BY A)
WHOLLY OWNED AES INDIANA SUBSIDIARY)
OF A SOLAR POWER GENERATING FACILITY)
AND BATTERY ENERGY STORAGE SYSTEM)
PROJECT TO BE KNOWN AS THE CROSSVINE)
PROJECT (“THE CROSSVINE PROJECT”); (2))
APPROVAL OF THE CROSSVINE PROJECT,)
INCLUDING A JOINT VENTURE STRUCTURE)
BETWEEN AN AES INDIANA SUBSIDIARY AND)
ONE OR MORE TAX EQUITY PARTNERS AND A)
CONTRACT FOR DIFFERENCES BETWEEN AES)
INDIANA AND THE PROJECT COMPANY THAT)
HOLDS AND OPERATES THE SOLAR)
GENERATION AND STORAGE ASSETS, AS A)
CLEAN ENERGY PROJECT AND ASSOCIATED)
TIMELY COST RECOVERY UNDER IND. CODE §)
8-1-8.8-11; (3) APPROVAL OF ACCOUNTING AND)
RATEMAKING FOR THE CROSSVINE)
PROJECT, INCLUDING AN ALTERNATIVE)
REGULATORY PLAN UNDER IND. CODE § 8-1-)
2.5-6 TO FACILITATE AES INDIANA’S)
INVESTMENT IN THE CROSSVINE PROJECT)
THROUGH A JOINT VENTURE; AND (4) TO THE)
EXTENT NECESSARY, 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.)**

CAUSE NO. 46113

SUBMISSION OF DIRECT TESTIMONY OF GUSTAVO GARAVAGLIS

Petitioner Indianapolis Power & Light Company d/b/a AES Indiana (“Petitioner” or “AES Indiana”), by counsel, hereby submits the direct testimony and attachment of Gustavo Garavaglis.

Respectfully submitted,



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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing was served this 29th day of August 2024, by email transmission, hand delivery or United States Mail, first class, postage prepaid to:

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VERIFIED DIRECT TESTIMONY
OF
GUSTAVO GARAVAGLIA
ON BEHALF OF
INDIANAPOLIS POWER & LIGHT COMPANY
D/B/A AES INDIANA

SPONSORING AES INDIANA ATTACHMENT GG-1

VERIFIED DIRECT TESTIMONY OF GUSTAVO GARAVAGLIO

ON BEHALF OF AES INDIANA

1. INTRODUCTION

Q1. Please state your name, employer and business address.

A1. My name is Gustavo Garavaglia. I am employed by AES US Services, LLC, (“AES Services”, also “Service Company”), which is the service company that serves Indianapolis Power & Light Company d/b/a AES Indiana (“AES Indiana”, “IPL”, or “the Company”). The Service Company is located at One Monument Circle, Indianapolis, Indiana 46204.

Q2. What is your position with AES Indiana?

A2. I am Vice President and Chief Financial Officer of IPALCO Enterprises, Inc. (“IPALCO”) and AES Indiana. I also serve as Vice President and Chief Financial Officer of the US Utilities, including Dayton Power and Light d/b/a AES Ohio (“AES Ohio” or “DPL”), and serve as an officer of other AES affiliates, including as Vice President and Chief Financial Officer of AES U.S. Investments.

Q3. On whose behalf are you submitting this direct testimony?

A3. I am submitting this testimony on behalf of AES Indiana.

Q4. Please describe your duties as Chief Financial Officer.

A4. As Chief Financial Officer, I am responsible for financial planning and analysis, treasury, accounting, tax, risk management and commercial strategy.

Q5. Please summarize your educational and professional qualifications.

1 A5. I have received a received a Bachelor's degree in Electrical Engineering from University
2 of Campinas (Unicamp) and a Master's degree in Business from FGV Brazil, and am a
3 CFA Charterholder.

4 **Q6. What is your previous work experience?**

5 A6. I returned to the Company in April 2024. Prior to rejoining AES, I served as Chief Financial
6 Officer of Vale Base Metals from April 2022 to April 2024. Prior to joining Vale, I spent
7 twelve years at AES, serving as Chief Financial Officer of IPALCO and AES Indiana from
8 November 2018 to March 2022. I also served as a director of AES Indiana from March
9 2019 to April 2022, and as a director or officer of other AES affiliates, including as Chief
10 Financial Officer of DPL and AES Ohio. Prior to that, I held several other positions while
11 at AES, including as the Director of Financial Planning & Analysis and Development &
12 Transactions for AES Mexico, Central America and the Caribbean ("AES MCAC"), Senior
13 Manager of Development & Transactions for AES MCAC, Investment Analysis and Risk
14 Manager for AES Brazil, M&A Associate for AES, and Strategic Planning Specialist for
15 AES Brazil.

16 **Q7. Have you previously testified before this Commission?**

17 A7. No.

18 **Q8. Are you familiar with AES Indiana's petition in this proceeding and the relief that it**
19 **seeks?**

20 A8. Yes.

21 **Q9. What is the purpose of your testimony in this proceeding?**

1 A9. My testimony provides an overview of the proposed solar plus battery energy storage
2 system (“BESS”) clean energy project (“Crossvine Project” or “Project”) located in Dubois
3 County, Indiana. My testimony supports Commission approval of the Project, focusing on
4 the following subjects:

- 5 • AES Indiana’s ongoing work to meet the need for electricity within its service
6 area.
- 7 • Overview of the Crossvine Project and relief sought.
- 8 • The Project is a reasonable and necessary Clean Energy Project.
- 9 • Overview of AES Indiana’s resource portfolio.
- 10 • Commission approval of the Project serves the public convenience and necessity.
- 11 • The Company’s proposed Joint Venture structure.
- 12 • The Company’s proposal to use a Contract for Differences (“CfD”).
- 13 • The proposed Project and associated requests for relief are consistent with Indiana
14 energy policy and reasonably consider each of the Five Pillars of electric utility
15 service enumerated in Ind. Code § 8-1-2-0.6 (which was effective July 1, 2023),
16 namely: Reliability, Affordability; Resiliency, Stability; and Environmental
17 Sustainability.

18 **Q10. Are you sponsoring any attachments?**

19 A10. Yes. I am sponsoring the following attachments:

- 20 • AES Indiana Attachment GG-1 – Verified Petition

1 **Q11. Were these attachments prepared or assembled by you or under your direction and**
2 **supervision?**

3 A11. Yes.

4 **Q12. Did you submit any workpapers?**

5 A12. No.

6 **2. ONGOING NEED FOR ELECTRIC SERVICE**

7 **Q13. Please describe AES Indiana's service area and customer base.**

8 A13. AES Indiana provides retail electric utility service to more than 526,000 retail customers
9 located principally in and near the economically important State capital – the City of
10 Indianapolis, Indiana, and in portions of the following Indiana counties: Boone, Hamilton,
11 Hancock, Hendricks, Johnson, Marion, Morgan, Owen, Putnam and Shelby Counties.

12 **Q14. Please provide an overview of AES Indiana's ongoing effort to meet the need for**
13 **electric service in AES Indiana's service territory.**

14 A14. AES Indiana strives to deliver safe, reliable and affordable electric service and facilities to
15 customers in the City of Indianapolis and surrounding central Indiana communities. The
16 Petition in this proceeding stems from the Company's 2022 Integrated Resource Plan
17 ("IRP"), the planning tool used by the Company to determine the optimal mix of supply or
18 demand resources to provide electricity to our customers. This portfolio approach focuses
19 on the deployment of an economic and reliable combination of resources and on the

1 reduction of risk through diversification. As also discussed by AES Indiana witness E.
2 Miller, the Company also considers the Five Pillars in its resource selection.¹

3 The IRP is affected by many factors, such as environmental regulations, the economy, and
4 the economics of new technologies and fuel supply. As a result, the IRP is re-examined as
5 circumstances change. AES Indiana witness E. Miller describes the 2022 IRP and 2024
6 IRP Update, and particularly, the Preferred Resource Portfolio and Short Term Action Plan
7 in detail.² As discussed by AES Indiana witness E. Miller, the Company proposes to fill
8 most of the capacity gap identified in 2024 IRP Update with the Pike County Storage
9 Project approved in Cause No. 45920 and the Crossvine Project presented in this Cause.³
10 The Crossvine Project helps meet the Company's need for winter capacity with the lowest
11 present value revenue requirement ("PVRR") of the viable and deliverable projects and the
12 lowest PVRR/MW UCAP of the hybrid projects in the All-Source RFP. See AES Indiana
13 witness Raney for further discussion on the selection of the Crossvine Project.⁴

14 **3. OVERVIEW OF THE CROSSVINE PROJECT AND RELIEF SOUGHT**

15 **Q15. Please identify the Project which is the subject of the Petition.**

16 A15. The Crossvine Project is a 85 MW(ac), Solar photovoltaic electric generation facility
17 coupled with a 340 MWh(dc) BESS (85MW/4-hour discharge power capacity) located in
18 Dubois County, Indiana. The Commercial Operation Date ("COD") is expected in June
19 2027. The Best Estimate of the total cost of the Project is \$ [REDACTED].⁵

¹ AES Indiana witness E. Miller Direct Testimony at Section 10.

² AES Indiana witness E. Miller Direct Testimony at Sections 2 and 3.

³ AES Indiana witness E. Miller Direct Testimony at Q/A 28.

⁴ AES Indiana witness Raney Direct Testimony at Section 6.

⁵ AES Indiana witness Raney Direct Testimony at Table 2.

1 The Crossvine Project will operate as a capacity and energy resource in the Midcontinent
2 Independent System Operation (“MISO”) market. The Project Company that will own the
3 Project is a subsidiary of AES Indiana, and the Project Company will ultimately be owned
4 by a Joint Venture limited liability company (“Joint Venture”) comprised of an AES
5 Indiana subsidiary and one or more tax equity partners.

6 **Q16. How will the Project be operated once in the Joint Venture?**

7 A16. AES Indiana, through its subsidiary, will manage the day-to-day operations of the
8 Crossvine Project. The Commission has a direct and extensive regulatory relationship with
9 AES Indiana. AES Indiana is and will remain subject to the Commission’s full jurisdiction.
10 AES Indiana has the requisite managerial, operational, and financial ability to develop and
11 manage the Crossvine Project. Additionally, in the development and operation of the
12 Project, AES Indiana will be able to leverage the experience and expertise of The AES
13 Corporation, which owns and operates solar and battery storage facilities in the United
14 States and elsewhere.

15 **Q17. Please summarize the relief sought in this proceeding.**

16 A17. As stated in the Petition initiating this Cause, the Company requests the Commission to
17 issue a Certificate of Public Convenience and Necessity (“CPCN”) for the Project. The
18 Company also requests the Commission to approve the Crossvine Project, including the
19 Membership Interest Purchase Agreement (“MIPA”), the joint venture structure, and the
20 use of the CfD, as a reasonable and necessary Clean Energy Project. The Company
21 requests the Commission approve the Company’s proposed accounting and ratemaking for
22 the Project as presented by AES Indiana witness Aliff, including deferral and subsequent

1 recovery through rates of prudently incurred Project Development Costs in the event the
2 Crossvine Project is not approved. The Commission previously declined to exercise its
3 jurisdiction over the Crossvine Project as set forth in the Order in Cause No. 45977 dated
4 February 21, 2024. The Company requests that the Commission continue to decline
5 exercising jurisdiction over the Project Company as a public utility. Finally, to the extent
6 necessary, the Company requests the Commission to decline to exercise any jurisdiction
7 over the Joint Venture as a public utility.

8 **4. CLEAN ENERGY PROJECT**

9 **Q18. Is the Crossvine Project a “Clean Energy Project” as that term is defined in Ind. Code**
10 **Ch. 8-1-8.8?**

11 A18. Yes. A “Clean Energy Project” as defined in the statute includes renewable energy
12 resources.⁶ Solar energy and energy storage systems or technologies are specifically listed
13 as clean energy resources, making the Crossvine Project a resource this statute was
14 designed to encourage.⁷

15 **Q19. Is AES Indiana an eligible business under Chapter 8.8?**

16 A19. Yes. AES Indiana is an energy utility. AES Indiana is proposing to undertake a Clean
17 Energy Project – namely a solar plus BESS project. Therefore, the Company is eligible
18 for relief under Chapter 8.8.

19 **5. OVERVIEW OF AES INDIANA’S RESOURCE PORTFOLIO**

20 **Q20. How does AES Indiana meet its customers’ need for electricity?**

⁶ Ind. Code § 8-1-8.8-2, -10.

⁷ Ind. Code § 8-1-37-4(a)(2) and (a)(10).

1 A20. AES Indiana meets its customers' need for electricity through a combination of: (a) existing
2 generation; (b) wholesale market purchases; (c) additional wind procured by the Company
3 a power purchase agreement ("PPA") as well as solar resources contracted via Rate
4 Renewable Energy Production ("REP"); (d) load management and distributed generation;
5 and (e) conservation, including demand-side management and energy efficiency. The
6 resource mix has evolved over time as plants retire due to age, environmental regulation,
7 technological change, economic conditions, and as customer interests and peak demand
8 change over time. Through the resource planning process, AES Indiana has sought to find
9 a reasonable least cost solution to meet the ongoing needs of its customers.

10 **Q21. Please provide an overview of AES Indiana's existing generating units and other**
11 **sources of supply.**

12 A21. The Company-owned generation capacity is located at the following primary sites:

- 13 1. Petersburg Station (Petersburg, IN) (1,487 MW);
- 14 2. Harding Street and Georgetown Stations (Indianapolis, IN) (1,093 MW);
- 15 3. Eagle Valley Station (Martinsville, IN) (664 MW);
- 16 4. Hardy Hills Solar (Clinton County, IN) (195 MW); and
- 17 5. Hoosier Wind (Benton County, IN) (106 MW).

18 The Company also has approximately 200 MW of additional wind generation (ICAP)
19 secured under a long-term PPA approved by the Commission.⁸

⁸ IURC Cause No. 43740 (1/27/2010).

1 AES Indiana has PPAs with approximately 96 MW of solar energy from solar facilities
2 located throughout its service territory pursuant to its Rate REP.

3 AES Indiana also uses demand-side management to meet the need for electricity within its
4 service area.

5 These resources are discussed in AES Indiana's 2022 IRP, a copy of which is included as
6 an attachment to AES Indiana witness E. Miller's testimony.⁹

7 The Company is also in the process of developing the Petersburg Energy Center,¹⁰ which
8 is a 250 MW solar facility paired with a 180 MWh BESS (60 MW 3-hour discharge power
9 capacity – AES Indiana expects to operate it as a 45 MW 4-hour capacity resource for
10 MISO capacity) located in Pike County, Indiana, and the Pike County Energy Storage
11 Project,¹¹ which is a 200MW/4-hour standalone BESS located in Pike County, Indiana.

12 **6. PUBLIC CONVENIENCE AND NECESSITY**

13 **Q22. In your opinion does or will the public convenience and necessity require the**
14 **construction of the proposed Project?**

15 A22. Yes. The Crossvine Project is reasonable and necessary. As stated above and further
16 discussed by AES Indiana witness E. Miller, AES Indiana requires this additional winter
17 capacity to meet the increased MISO winter reserve margin.¹² More specifically, the
18 development of the Crossvine Project is consistent with the 2022 IRP Short Term Action
19 Plan and 2024 IRP Update as discussed by AES Indiana witness E. Miller. The Crossvine

⁹ AES Indiana Attachment EKM-1 (AES Indiana's 2022 IRP), Volume I at Section 6.1 (Existing AES Indiana Resources).

¹⁰ The Petersburg Energy Center was approved by the Commission in Cause Nos. 45591 and 45832.

¹¹ The Pike County Energy Storage Project was approved by the Commission in Cause No. 45920.

¹² AES Indiana witness E. Miller Direct Testimony at Q/As 28-29 and 35.

1 Project, as the lowest PVRR of the viable and deliverable projects and the lowest
2 PVRR/MW winter UCAP of the hybrid projects in the All-Source RFP, is in the public's
3 interest and meets AES Indiana's ongoing obligation to provide adequate and reliable
4 electric service and facilities.¹³ Additionally, as discussed by AES Indiana witness Raney,
5 the Crossvine Project is at a relatively advanced stage of development and permitting. The
6 Project has all necessary land lease options in place and the zoning is approved.¹⁴ As
7 discussed further by AES Indiana witness Fields, the Project also holds executed Generator
8 Interconnection Agreements ("GIA") with MISO and expects to finalize the remaining
9 GIA no later than October 2024, which reduces time and cost risks associated with the
10 MISO queue process for the benefit of the Company's customers.¹⁵

11 The Project is consistent with the Five Pillars of electric utility service, as further described
12 in Section 9 below. The location of the Project in a "Energy Community" will benefit AES
13 Indiana's customers by providing a total investment tax credit ("ITC") of 40% under the
14 Inflation Reduction Act ("IRA") as described by AES Indiana witness N. Miller.¹⁶ The
15 Crossvine Project also benefits the local community of Dubois County and the state.
16 Locating a "home grown" resource in Indiana is consistent with state policy as it promotes
17 state energy security, grows business development in Indiana, provides income to
18 landowners, and provides local taxes to support local government projects. Therefore, the
19 Crossvine Project is reasonable and necessary, and the public interest and convenience will
20 be served by the Project and associated relief being approved as proposed by AES Indiana.

¹³ AES Indiana witness Raney Direct Testimony at Section 6.

¹⁴ AES Indiana witness Raney Direct Testimony at Q/A 24.

¹⁵ AES Indiana witness Fields Direct Testimony at Q/A 10.

¹⁶ AES Indiana witness N. Miller Direct Testimony at Q/As 15-16.

1 **Q23. Please discuss the benefits of the project acquisition transaction structure.**

2 A23. The project acquisition structure of the Crossvine Project will allow the Company, through
3 its subsidiaries, to own the Crossvine Project and the associated interconnection facilities
4 and injection rights. Owning the interconnection facilities and injection rights associated
5 with the Crossvine Project will provide the Company and its customers with optionality
6 and flexibility following the end of the Crossvine Project's useful life, such as continuing
7 to operate the Crossvine Project past its useful life, making capital investments to extend
8 the Crossvine Project's useful life, expanding the resources at the site, or constructing a
9 new project at the site of the Crossvine Project. Additionally, as discussed by AES Indiana
10 witness Raney, the project acquisition transition structure allows the Company to have
11 direct control over day-to-day decisions and decisions on operating and maintenance
12 expenditures, which also allows future cost savings resulting from lower operation and
13 maintenance expenses to be reflected in the utility's cost of service.¹⁷ Direct control over
14 the Project also creates opportunity for AES Indiana to respond to unexpected changes in
15 supply conditions, MISO rules, and regulatory environments.

16 **Q24. Please discuss the economic development benefits associated with the Crossvine**
17 **Project.**

18 A24. Safe, reliable, affordable and sustainable energy can be a competitive advantage for
19 Indianapolis and Indiana in attracting new investment. By increasing the availability of
20 renewable energy, Indianapolis will have a stronger competitive advantage in maintaining

¹⁷ AES Indiana witness Raney Direct Testimony at Q/A 19.

1 and growing existing businesses as well as attracting new investment and creating new
2 jobs.

3 Many large companies “screen” potential locations for new investment for the availability
4 of economic renewable energy. AES Indiana works with the Indy Chamber Indiana
5 Economic Development Corporation and local tourism and sports groups, such as Visit
6 Indy, Indiana Sports Corp., and the NCAA, to help attract businesses and industries that
7 make social and environmental sustainability goals part of their location or expansion
8 plans. Recent examples include the 2024 NBA All-Star Game and the U.S. Olympic
9 Swimming Team Trials, both of which pursued renewable energy from AES Indiana
10 through renewable energy certificates.

11 Maintaining and growing the business community in the AES Indiana service territory is
12 beneficial because it provides a larger base over which to spread the fixed costs of
13 providing retail electric service. While the Company strives to control the cost of providing
14 service, it is important to maintain and grow load as a means of keeping our rates
15 reasonably low. Retaining and attracting new customers to the service territory, who are
16 increasingly interested in being served by green energy resources, is an important part of
17 our effort to keep rates comparatively low.

18 **7. JOINT VENTURE**

19 **Q25. Please describe the Joint Venture.**

20 A25. The Joint Venture structure includes a limited liability company (the “Joint Venture, LLC”)
21 operating as a partnership that owns ProjectCo, which in turn owns the solar generation
22 and BESS assets. The Joint Venture, LLC will be jointly owned by the AES Indiana

1 Sponsor member and the Tax Equity Partner (“TEP”) member. While the TEP member of
2 the Joint Venture, LLC may consist of more than one tax equity partner, for simplicity, I
3 use the singular tense.

4 This transaction is detailed by AES Indiana witness N. Miller.¹⁸ His testimony also
5 includes an illustration of the transaction structure in AES Indiana Attachment NMM-1.

6 **8. CONTRACT FOR DIFFERENCES**

7 **Q26. What is a contract for differences?**

8 A26. A contract for differences is a financial instrument entered into by two parties wherein the
9 buyer agrees to settle with the seller the difference between the current value of an asset
10 and its value at the time of the contract. At settlement, if the market price is higher than
11 the contract for differences fixed price, the seller pays the difference to the buyer; if the
12 market price is lower than the contract for differences fixed price, the buyer pays the
13 difference to the seller. In energy markets, a contract for differences provides one party a
14 fixed price for electric energy when a party is not physically transacting in the underlying
15 commodity (i.e., electric energy).

16 **Q27. Please describe the terms of AES Indiana’s proposed CfD.**

17 A27. The CfD is a contract between AES Indiana and the Project Company that holds and
18 operates the energy generating facility (ProjectCo). The CfD is effectively a fixed-price
19 energy hedge equivalent to that provided by traditional AES Indiana-owned generation.
20 The CfD establishes a fixed price for the facility’s energy output. ProjectCo is the market
21 participant and sells all the energy from the facility into the MISO market. The CfD is

¹⁸ AES Indiana witness N. Miller Direct Testimony at Section 3.

1 settled between AES Indiana and the ProjectCo to provide the ProjectCo predictable cash
2 revenue and the certainty of a fixed price for AES Indiana customers. For example, if the
3 MISO price is greater than the CfD price, the difference is credited to AES Indiana;
4 conversely, if the MISO price is less than the CfD price, the difference is paid by AES
5 Indiana to the ProjectCo. AES Indiana buys its load obligation from MISO at the LMP,
6 and the CfD settlement between AES Indiana and ProjectCo offsets the MISO purchase so
7 that financially the corresponding purchase of energy is at the CfD fixed price.

8 The CfD also directly assigns the MISO Local Resource Zone (“LRZ”) 6 credits to AES
9 Indiana, along with the RECs created by the Crossvine Project. AES Indiana is credited
10 the net of Ancillary Services associated with the facility and any other generation benefits
11 the ProjectCo receives under the Generator Interconnection Agreement.

12 AES Indiana’s contemplates the term of the CfD will be approximately ■ years. The
13 Company expects to negotiate and complete the CfD once the TEP is known.

14 **Q28. Why is a CfD being used for this transaction?**

15 A28. As just discussed, the CfD is a “financial” rather than a “physical” contract. As explained
16 by AES Indiana witness N. Miller, by utilizing the CfD, AES Indiana and TEP as partners
17 in the Joint Venture, LLC, are able to avoid the potential negative tax implications that
18 would exist if a Purchase Power Agreement were used, and this in turn allows AES Indiana
19 to utilize the tax benefits of the Crossvine Project for the benefit of AES Indiana’s
20 customers.¹⁹

21 **Q29. What is the estimated pricing for the CfD for Crossvine?**

¹⁹ AES Indiana witness N. Miller Direct Testimony at Q/A 33.

1 A29. The pricing for the first full year under the CfD for Crossvine, 2028, is estimated to be
2 approximately \$ [REDACTED] per MWh for energy [REDACTED]
3 [REDACTED] and a storage capacity payment estimated to be approximately \$ [REDACTED]
4 [REDACTED], [REDACTED]
5 [REDACTED] As described below, the price is the result of a computation designed to
6 achieve a targeted return on investment of the acquired Project based on each party's
7 underlying investment profile and characteristics. The final CfD price is subject to
8 negotiation with the tax equity investor.

9 **Q30. How was the pricing for the CfD determined?**

10 A30. The price of the CfD is determined by calculating, on a \$/MWh and capacity payment
11 basis, an amount that enables both the TEP and the AES Indiana Sponsor of the Joint
12 Venture, LLC to achieve a targeted return on investment of the acquired Project based on
13 each party's underlying investment profile and characteristics.²⁰ TEP's membership
14 interests in Joint Venture, LLC will enable the TEP to receive a specific percent of the
15 ITCs and tax losses generated by the Project along with distributions of up to a specific
16 percent of any excess cash generated by the Project. Once TEP has attained an internal
17 rate of return ("IRR") as specified in the Joint Venture, LLC Limited Liability Company
18 Operating Agreement ("Joint Venture LLCA"), the allocation of taxable income, loss, gain
19 and deductions changes as between AES Indiana Sponsor and TEP and the allocation of
20 such taxable income, loss, gain and deductions to the TEP drops. As further discussed by
21 AES Indiana witness N. Miller, at this point, AES Indiana Sponsor member of Joint

²⁰ As proposed, distributions to AES Indiana from the ProjectCo will be credited to customers through the FAC. AES Indiana witness Aliff presents AES Indiana's proposed ratemaking treatment associated with the Project.

Venture, LLC will have the option to acquire the TEP interest for fair market value as defined in the Joint Venture, LLCA.²¹ If AES Indiana Sponsor acquires the TEP interest, AES Indiana can consolidate the Project and eliminate the need for the CfD.

Q31. Is this pricing reasonable?

A31. The CfD price is considered to be market-based at a level in which the transaction will attract TEP investment. As discussed by AES Indiana witness N. Miller, attracting the TEP investment is a key component of AES Indiana solar + storage projects, as a means to monetize the associated tax benefits on behalf of our customers.²²

Q32. Why did AES Indiana choose not to execute a CfD at this point?

A32. At this stage of the Project, it is premature to execute a CfD. Waiting to execute this agreement provides flexibility should facts or circumstances arise that could enable us to better optimize the CfD for the benefit of AES Indiana customers. While none are anticipated at this time, an example of potential circumstances include changes in tax laws that could occur between now and when the project comes on-line.²³ It is anticipated that the CfD will be executed in a time frame close to the completion of the project in 2027.

Q33. What is the cash flow for the settlements and earnings distributions under the CfD?

A33. As described above, AES Indiana does not take delivery of the energy from the ProjectCo under the CfD. Instead, AES Indiana financially settles each month for the difference between the CfD price and the actual LMP. AES Indiana proposes that amounts paid by

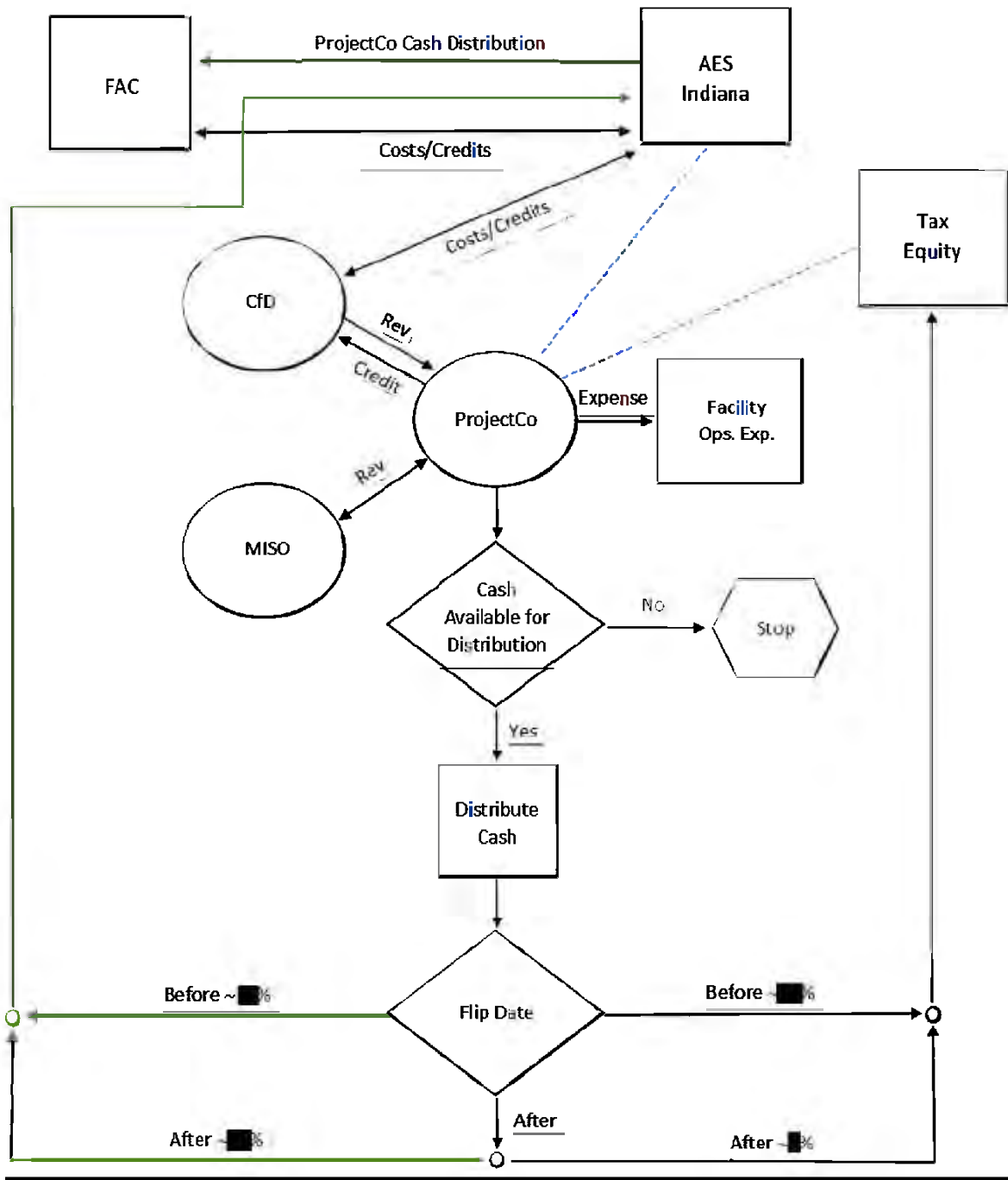
²¹ AES Indiana witness N. Miller Direct Testimony at Q/A 23.

²² AES Indiana witness N. Miller Direct Testimony at Q/A 24.

²³ AES Indiana witness N. Miller Direct Testimony at Q/A 34.

1 AES Indiana to the ProjectCo or paid by the ProjectCo to AES Indiana will be charged or
2 credited respectively to the Fuel Adjustment Clause (“FAC”) for timely recovery or
3 crediting to AES Indiana customers. Similarly, ProjectCo cash distributions will be timely
4 credited to AES Indiana customers through the FAC. Figure 1 below shows how, at a high
5 level, these charges and credits flow to AES Indiana customers.

1 **Figure 1. Illustrative Crossvine Project Revenues and Distributable Cash Flows²⁴**



²⁴Does not reflect intermediate holding companies. Does not reflect any tax attributes allocation between AES Indiana and TEP.

1 **Q34. Please discuss how ProjectCo will operate.**

2 A34. The AES Indiana Sponsor of the Joint Venture will be responsible for operations and
3 operating decisions. Operations will be funded by a combination of two revenue sources
4 – MISO sales and revenue from a CfD between the ProjectCo and AES Indiana. It is
5 anticipated that O&M will be performed by AES Indiana or an AES affiliate under an
6 intercompany O&M agreement. This approach will leverage AES Indiana's existing
7 facility and resources efficiently for the benefit of this Project and our customers.

8 **Q35. Please explain why the Joint Venture documents cannot be executed now.**

9 A35. Until it is clear that the Project will be built and proceed, TEP investors will not engage in
10 detailed diligence or negotiations as they have finite resources. This will not occur until
11 the final regulatory approval is secured, which is the initial major milestone for the Project
12 to move forward.

13 Prior to the Joint Venture LLCA and the Equity Capital Contribution Agreement and
14 Membership Interest Purchase Agreement between AES Indiana DevCo and Joint Venture,
15 LLC transferring the ProjectCo ("TEP MIPA") being negotiated and executed, parties will
16 agree on major items through term sheet negotiations. The term sheet that AES Indiana is
17 proposing to use is attached to AES Indiana witness N. Miller's testimony as AES Indiana
18 Confidential Attachment NMM-2. Once the term sheet is agreed, documentation of the
19 Joint Venture LLCA will proceed.

20 The ITC tax benefits flow to the TEP in the year the project comes on-line. For the
21 Crossvine Project this is 2027. TEPs are typically unable to provide commitments this far
22 in advance for a 2027 project such as the Crossvine Project. This is because they do not yet
23 know what their respective tax positions will be for 2027 and how much tax-equity appetite

1 they will have. Most TEP's will be looking at providing commitments for 2027 projects
2 toward the end of 2026 and the first half of 2027. Once executed, AES Indiana will file the
3 CfD, Joint Venture LLCA, and TEP MIPA (as described by AES Indiana witness N.
4 Miller) as a compliance filing in this docket subject to the protection of confidential
5 information.²⁵

6 **9. FIVE PILLARS OF ELECTRIC UTILITY SERVICE**

7 **Q36. Are you familiar with Ind. Code § 8-1-2-0.6?**

8 A36. Yes. In this statute, effective July 1, 2023, the Indiana General Assembly declares that it is
9 the continuing policy of the state that decisions concerning Indiana's electric generation
10 resource mix, energy infrastructure, and electric service ratemaking constructs must
11 consider each of five attributes of electric utility service enumerated in the statute, namely:
12 Reliability, Affordability: Resiliency, Stability; and Environmental Sustainability. These
13 attributes or "Pillars" as they are referenced in the Commission's GAO 2023-04 stem from
14 the "Five Pillars" of utility service recommended by the Indiana 21st Century Energy
15 Policy Development Task Force. AES Indiana understands the importance of each Pillar.

16 **Q37. Did the Company consider the Five Pillars in the development of the Crossvine** 17 **Project?**

18 A37. Yes. As further discussed by AES Indiana witness E. Miller, the Company reasonably
19 considered the Five Pillars in the development of the Company's IRP and in the
20 development of the Crossvine Project presented in this docket.²⁶

²⁵ AES Indiana witness N. Miller Direct Testimony at Q/A 27.

²⁶ AES Indiana witness E. Miller Direct Testimony at Section 10.

1 **Q38. How does the Company consider the Project's consistency with the Affordability**
2 **Pillar?**

3 A38. First, AES Indiana places a high importance on customer rate impact in its decision
4 making. We understand that the cost of providing service is necessarily reflected in the
5 price charged for service. In the context of a CPCN, the way in which affordability and
6 customer rate impact are considered is through the economic analysis of projects as
7 compared to alternatives by analyzing the economics of projects through the IRP, through
8 the issuance of all source request for proposals ("RFPs"), and in the selection of projects
9 for which to request a CPCN. The Company's approach to consider affordability is similar
10 to the approach used in other cases, including Cause No. 45920, in which the Commission
11 agreed that the Company's "PVRR analysis and rate impact calculation demonstrate that
12 the proposed accounting and ratemaking reasonably consider affordability."²⁷

13 The objective of AES Indiana's IRP is to identify a preferred resource portfolio that
14 provides safe, reliable, sustainable, and reasonable least cost electricity service to AES
15 Indiana customers, giving due consideration to potential risks and stakeholder input. AES
16 Indiana's 2022 IRP and 2024 IRP Update demonstrate the preferred resource portfolio and
17 Short Term Action Plan should include additional BESS and hybrid resources. This
18 conclusion is discussed in the Direct Testimony of AES Indiana witness E. Miller. His
19 analysis demonstrates that the 2022 IRP Preferred Resource Portfolio remains the
20 reasonable least cost IRP portfolio for AES Indiana customers in both 20- and 10-year
21 PVRR cases.²⁸ Focusing on the 20-year PVRR comparison, the Preferred Resource

²⁷ Order in Cause No. 45920 (Pike County BESS) at p. 24.

²⁸ AES Indiana witness E. Miller Direct Testimony at Q/A 20.

1 Portfolio is lower in PVRR by \$458 million over the planning period compared to the next
2 best Candidate Portfolio.²⁹

3 AES Indiana witness E. Miller's Direct Testimony also includes an annual revenue
4 requirement analysis of the 2024 IRP Update in both real and nominal terms to serve as a
5 proxy for the rate impact customers will experience throughout the 20-year planning
6 period.³⁰ This comparative analysis indicates the Preferred Resource Portfolio will
7 ultimately result in lower rate impact on customers compared to the other Candidate
8 Portfolios.

9 The Crossvine Project should be approved so as to allow the Company to affordably meet
10 the Company's near-term capacity obligations as identified in the 2022 IRP and 2024 IRP
11 Update.

12 Second, the Crossvine Project Best Estimate was the result of a competitive RFP processes
13 as discussed by AES Indiana witness Raney.³¹ The purpose of the RFPs was to solicit bids
14 from qualified third parties to competitively develop, engineer, procure, and construct the
15 Project. The competitive nature of the RFPs helped to solicit bids believed to be most
16 economic from the bidders.

17 Third, after receiving the RFP bids, the evaluation and selection process included a rigorous
18 economic analysis, referred to as the Ranking Analysis, that compared the PVRR of the
19 projects and their alternatives. This analysis is presented and discussed by AES Indiana

²⁹ AES Indiana witness E. Miller's Direct Testimony at Q/A 20.

³⁰ AES Indiana witness E. Miller's Direct Testimony at Q/A 21.

³¹ AES Indiana witness Raney's Direct Testimony at Sections 3 and 6; Q/As 35 and 44.

1 witness Stone in her testimony.³² As discussed by AES Indiana witness Stone, the Ranking
2 Analysis estimates the cost of the Crossvine Project relative to other proposals that the
3 Company received in its 2023 All Source RFP.³³ AES Indiana witness Stone also calculates
4 the annual revenue requirement for the Crossvine Project on both a real and nominal
5 basis.³⁴ As stated above, the Crossvine Project helps meet the Company's need for winter
6 capacity with the lowest PVRR of the viable and deliverable projects and the lowest
7 PVRR/MW UCAP of the hybrid projects in the All-Source RFP.³⁵

8 Additionally, as presented by AES Indiana witness N. Miller and discussed above, the
9 Project is expected to be eligible for 40% federal investment tax credit, which allows the
10 Company to maximize the tax benefits and reduce the cost of the Project for the benefit of
11 our customers.³⁶ The addition of the Crossvine Project to AES Indiana's resource portfolio
12 will also further the Company's efforts to protect our customers from fuel price
13 fluctuations, and changes in regulatory practices that can drive up the cost of a particular
14 fuel (e.g., environmental regulations).

15 As I discuss further above, the project acquisition structure of the Crossvine Project
16 provides customers with resource optionality following the end of the useful life of the
17 Project by allowing the Company, through its subsidiaries, to retain ownership over the
18 assets associated with the Project, including the valuable interconnection facilities and
19 injection rights.

³² AES Indiana witness Stone Direct Testimony Sections 3-7.

³³ AES Indiana witness Stone Direct Testimony at Q/A 14.

³⁴ AES Indiana witness Stone Direct Testimony at Q/A 51.

³⁵ AES Indiana witness Stone Direct Testimony at Figure 1.

³⁶ AES Indiana witness N. Miller's Direct Testimony at Q/As 15-16.

1 Finally, AES Indiana witness Aliff's testimony shows the estimated bill impact of the
2 Project on customers is reasonable.³⁷

3 **Q39. Please provide an overview of the reliability, resiliency, and stability benefits**
4 **associated with the Project.**

5 A39. As mentioned above, the Project will provide the Company approximately 85 MW(ac)
6 ICAP of solar resources and 85 MW(ac)/4 hours ICAP of BESS resources to the
7 Company's resource portfolio. The Crossvine Project is consistent with the Reliability and
8 Resiliency Pillars as the BESS component of the Project will provide the Company with
9 an additional dispatchable resource located in the state of Indiana to meet customers' needs
10 and will help AES Indiana meet its winter capacity needs. The Crossvine Project is further
11 consistent with the Resiliency Pillar as it will diversify the Company's resource portfolio.
12 The Crossvine Project is consistent with the Stability Pillar as it will be capable of
13 providing vital ancillary services to the grid. AES Indiana witness E. Miller further
14 discusses the reliability, resiliency, and stability benefits associated with the Project,
15 including the assessment of these factors as part of the Company's IRP.³⁸

16 **Q40. Please discuss the environmental sustainability attributes associated with the Project.**

17 A40. As stated above, solar and battery energy storage are clean energy resources and fall within
18 the definition of "renewable energy resource" as defined in Ind. Code § 8-1-8.8-10. Solar
19 energy provides a carbon free, zero air emissions source of electricity, as there are not any
20 greenhouse gas, nitrous oxide or sulfur dioxide emissions from each megawatt hour of

³⁷ AES Indiana witness Aliff Direct Testimony at Q/As 36-37 and AES Indiana Attachment KA-4 and -4(C), lines 63-68.

³⁸ AES Indiana witness E. Miller Direct Testimony at Q/As 22 and 53-54.

electricity generated. In other words, solar energy is a clean and sustainable resource. Battery energy storage facilitates the use of solar and wind resources. The Company's IRP reasonably considered the impact of environmental regulations on the cost of providing service. During the IRP public advisory process, stakeholders expressed a strong preference for cleaner sources of energy. The development of the Crossvine Project is consistent with that interest. AES Indiana witness E. Miller further discusses the Environmental Sustainability Pillar.³⁹

Q41. Is the addition of the Crossvine Project consistent with the findings of the Indiana 21st Century Energy Policy Development Task Force's 2022 Final Report?

A41. Yes. The findings in the report, which among other things, recognize that certain renewable energy projects, like the Crossvine Project, are a reasonable and necessary part of the State energy policy. In pertinent part, the report finds that:

- To keep Indiana competitive in attracting and retaining certain businesses, the state must encourage the deployment of renewable energy resources, while not compromising the reliability and affordability of electric utility service.
- Generation, energy storage, and demand response resources that provide reliability characteristics, such as generator capacity, dispatchability, and load-following capabilities are important to ensuring the overall reliability of the electric grid.
- The necessity of a diverse and reliable generation portfolio was highlighted in the summer of 2022 as both the Midcontinent Independent System Operator (MISO) and the North American Electric Reliability Corporation (NERC) indicated that Indiana faced a higher risk of energy shortfalls during peak summer conditions because of increased demand, capacity shortfalls resulting from generation retirements, and lower levels of accredited capacity.
- Renewable energy generation sources are highly desirable with respect to reducing carbon emissions, and that they are presently economically competitive with

³⁹ AES Indiana witness E. Miller Direct Testimony at Q/A 23 and Figure 9.

existing conventional generation resources because of technological advancements, market innovations, and federal government subsidies.⁴⁰

The Project is consistent with each of the factors listed above. The Project is a renewable energy resource as defined by Ind. Code § 8-1-8.8-10 and bolsters the reliability of AES Indiana's resource portfolio without compromising customer affordability. The Crossvine Project is the type of project that is "highly desirable" as described in the report as it utilizes ITC to reduce the cost of the Project for the benefit of customers and uses renewable energy generation sources and BESS to provide an economically competitive option to customers, as demonstrated in the PVRR analysis presented by AES Indiana witness E. Miller.

Q42. Please describe Table 1 below.

A42. Table 1 below provides the location in the Company's filing of testimony specifically addressed to the Five Pillars. The balance of the Company's filing corroborates the identified discussion. This index is provided in accordance with the Commission's GAO 2023-04 to facilitate the Commission's consideration of the Five Pillars.

⁴⁰https://iga.in.gov/publications/committee_report/2023-06-15T17-11-56.152Z-21st-century-energy-policy-development-final-report-2022.pdf.

1

Table 1: Five Pillars Index

Topic	Witness(es)
Five Pillars	Garavaglia – Section 9 Erik Miller – IRP consideration of Five Pillars – Q/As 13-14, 53
Reliability	Garavaglia – Q/A 39 Erik Miller – Q/As 13-14, 22, 28, 38, 52-54
Affordability	Garavaglia – Q/As 22-24, 38 Erik Miller – Q/As 13-15, 20-21, 28, 31-34, 36-37, 42, 53 Stone – Q/A 51 Aliff – Q/As 31-32, 35-37
Resiliency	Garavaglia – Q/A 39 Erik Miller – Q/As 13-14, 22, 28, 38, 52-54
Stability	Garavaglia – Q/A 39 Erik Miller – Q/As 13-14, 22, 28, 38, 52-54
Environmental Sustainability	Garavaglia – Q/A 40 Erik Miller – Q/As 13-14, 23, 38, 53-54

2

3

10. CONCLUSION

4

Q43. What is your conclusion and recommendation to the Commission?

5

A43. It is the Company's reasonable judgment that the Crossvine Project is a reasonable, least cost choice to fill AES Indiana's capacity need and is consistent with the Five Pillars of electric utility service. I recommend the Commission approve AES Indiana's development of the Crossvine Project as a Clean Energy Project and issue a CPCN so that the Company may proceed with the Project. The Commission should also approve the associated accounting and ratemaking relief sought by the Company in this proceeding.

10

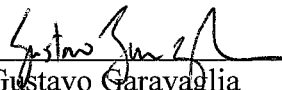
1 **Q44. Does that conclude your prepared verified direct testimony?**

2 A44. Yes

VERIFICATION

I, Gustavo Garavaglia, Vice President and CFO of AES Indiana affirm under penalties of perjury that the foregoing representations are true and correct to the best of my knowledge, information and belief.

Dated: August 29, 2024



Gustavo Garavaglia

AES Indiana Attachment GG-1

[Verified Petition – Not Reproduced Herein]