

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 )

OFFICIAL  
EXHIBITS

IURC  
PETITIONER'S  
EXHIBIT NO. 2  
DATE 10-18-23 AT REPORTER

CAUSE NO. 45920

PETITIONER'S SUBMISSION OF REBUTTAL TESTIMONY OF  
G. AARON COOPER

Indianapolis Power & Light Company d/b/a AES Indiana ("AES Indiana" or "Petitioner"),  
by counsel, hereby submits the rebuttal testimony and attachments of G. Aaron Cooper.

Respectfully submitted,



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Teresa Morton Nyhart (Atty. No. 14044-49)

Jeffrey M. Peabody (Atty. No. 28000-53)

Barnes & Thornburg LLP

11 S. Meridian Street

Indianapolis, Indiana 46204

Nyhart Phone: (317) 231-7716

Peabody Phone: (317) 231-6465

Fax: (317) 231-7433

Nyhart Email: tnyhart@btlaw.com

Peabody Email: jpeabody@btlaw.com

Attorneys for INDIANAPOLIS POWER & LIGHT  
COMPANY D/B/A AES INDIANA

**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that a copy of the foregoing was served this 27th day of September, 2023, by electronic transmission, upon the following:

T. Jason Haas  
Adam J. Kashin  
Office of Utility Consumer Counselor  
115 W. Washington Street, Suite 1500 South  
Indianapolis, Indiana 46204  
[infomgt@oucc.in.gov](mailto:infomgt@oucc.in.gov)  
[THaas@oucc.IN.gov](mailto:THaas@oucc.IN.gov)  
[AKashin@oucc.IN.gov](mailto:AKashin@oucc.IN.gov)



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Jeffrey M. Peabody

Teresa Morton Nyhart (Atty. No. 14044-49)  
Jeffrey M. Peabody (Atty. No. 28000-53)  
Barnes & Thornburg LLP  
11 S. Meridian Street  
Indianapolis, Indiana 46204  
Nyhart Phone: (317) 231-7716  
Peabody Phone: (317) 231-6465  
Fax: (317) 231-7433  
Nyhart Email: [tnyhart@btlaw.com](mailto:tnyhart@btlaw.com)  
Peabody Email: [jpeabody@btlaw.com](mailto:jpeabody@btlaw.com)

Attorneys for INDIANAPOLIS POWER & LIGHT COMPANY  
D/B/A AES INDIANA

**VERIFIED REBUTTAL TESTIMONY**

**OF**

**G. AARON COOPER**

**ON BEHALF OF**

**INDIANAPOLIS POWER & LIGHT COMPANY**

**D/B/A AES INDIANA**

**CAUSE NO. 45920**

**VERIFIED REBUTTAL TESTIMONY OF G. AARON COOPER  
ON BEHALF OF AES INDIANA**

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

2   A1.   My name is G. Aaron Cooper. I am employed by AES U.S. Services, LLC, the service  
3           company of Indianapolis Power & Light Company d/b/a AES Indiana (“AES Indiana” or  
4           “Company”). My business address is One Monument Circle, Indianapolis, Indiana 46204.

5   **Q2.   What is your position with AES Indiana?**

6   A2.   I am Chief Commercial Officer, US Utilities.

7   **Q3.   Are you the same G. Aaron Cooper that filed direct testimony on behalf of AES**  
8           **Indiana in this Cause?**

9   A3.   Yes.

10   **Q4.   What is the purpose of your rebuttal testimony?**

11   A4.   My testimony focuses on certain matters raised in the testimony filed on behalf of the  
12           OUCC.<sup>1</sup> More specifically, I address:

- 13           • The OUCC recommendation for a firm cost cap on the Project set to AES Indiana’s  
14           investment in the Pike Project, including carrying charges. Pub. Ex. 1 at 1, 2, 10, 11-  
15           2; Pub. Ex. 2 at 1-2.
- 16           • The OUCC recommendation that battery augmentation of the BESS be guaranteed to  
17           maintain capacity at a minimum of 190 MW x 4 hours for the 20-year term of the  
18           CfD. Pub. Ex. 1 at 10, 12; Pub. Ex. 3 at 5, 10-11.

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<sup>1</sup> Absence of a response to every issue raised in the OUCC’s testimony does not mean I agree with the OUCC on those issues.

- The OUCC recommendation that the final CfD should include a decommissioning plan and the estimated associated costs must be included and supported by a financial instrument to be posted when the Pike Project begins commercial operation. Pub. Ex. 1 at 1, 2, 10, 12; Pub. Ex. 3 at 9, 11.
- The OUCC recommendation that evidence of insurance be required that will pay for the replacement of the battery to its initial capacity and clean-up for the life of the CfD in the event of a thermal incident. Pub. Ex. 3 at 7, 11.
- The OUCC recommendation that AES Indiana conduct BESS safety and fire training annually with the local fire department and Pike County Emergency Management for the term of the CfD. Pub. Ex. 1 at 12; Pub. Ex. 3 at 7, 11.
- The OUCC's comparison and characterization of Project costs. Pub. Ex. 1 at 7-10.

I conclude my testimony with rebuttal to the OUCC's recommendations to the Commission.

**Q5. Does your testimony include any attachments?**

A5. Yes. My testimony includes the following:

<u>AES Indiana Attachment GAC-1R</u>	AES Indiana's response to OUCC DR 2-5
<u>AES Indiana Confidential Attachment GAC-2R</u>	Confidential Attachments to OUCC DR 2-5 (in pdf format)

**Q6. Were these attachments prepared or assembled by you or under your direction?**

A6. Yes.

#### **I. COST RECOVERY CAP**

**Q7. Please summarize the OUCC recommendation regarding the proposed cost cap.**

1 A7. The OUCC recommends a firm cost cap on the Project set to AES Indiana's investment in  
2 the Pike Project, including carrying charges, after the tax-equity partner has made its  
3 contribution, to protect customers from further increasing costs. Pub. Ex. 1 at 1, 2, 10, 11-  
4 2; Pub. Ex. 2 at 1-2.

5 **Q8. Should the Commission adopt the OUCC's proposed cost cap?**

6 A8. No. Please see AES Indiana witness Rogers's rebuttal testimony for the policy reasons as  
7 to why the Commission should not adopt the OUCC's proposed cost cap. As described in  
8 AES Indiana witness Rogers's rebuttal testimony, the OUCC recommendations appear  
9 ambiguous, specifically regarding whether the OUCC seeks to disallow future capital  
10 investment and O&M costs, including safety training, insurance, and augmentation.

11 As I discuss below, AES Indiana, through its subsidiaries, will manage and operate the  
12 Project. The management of the Project will require the Company, through its subsidiaries,  
13 to prudently maintain and operate the BESS. As detailed in AES Indiana Witness DSP  
14 Confidential Workpaper 2, AES Indiana has reasonably included the future operating cost  
15 in the PVRR analysis. As described in AES Indiana witness Powers's direct testimony  
16 (pp. 17-18), the Project has the lowest PVRR per MW UCAP across the other projects  
17 included in Phase 3 of the RFP. Therefore, the Commission should not adopt a cost cap  
18 that would preclude the Company from recovering prudently incurred costs that are  
19 necessary to safely and reliably operate the Project.

20 **II. BATTERY AUGMENTATION AND PROJECT PROGRESS REPORTS**

21 **Q9. Please summarize the OUCC's recommendation regarding battery augmentation and**  
22 **project progress reports.**

1 A9. The OUCC recommends battery augmentation of the BESS be required for the 20-year  
2 term of the CfD to maintain capacity at a minimum of 190 MW/4 hours. Pub. Ex. 1 at 10,  
3 12; Pub. Ex. 3 at 5, 10-11.

4 The OUCC also recommends AES Indiana be required to provide progress reports to the  
5 Commission and the OUCC regarding the Project and its battery augmentations on a  
6 periodic basis. Pub. Ex. 3 at 5, 11.

7 **Q10. Please respond to the OUCC's proposal to require battery augmentation to maintain**  
8 **a minimum level of capacity.**

9 A10. AES Indiana already plans to complete battery augmentation throughout the life of the  
10 Project to maintain 200 MW/4 hours of capacity at 80% depth of discharge, which is 190  
11 MW/4 hours of MISO accredited capacity in all four seasons. The Company explained  
12 this in its response to OUCC DR 2-5. This discovery response, a copy of which is included  
13 with my rebuttal testimony, demonstrates that the Company recognizes the need for  
14 augmentation and is properly planning for this work.<sup>2</sup>

15 These augmentations will be required for the Project to continue to maintain the 200 MW/4  
16 hours of capacity at 80% depth of discharge and the corresponding 190 MW of MISO  
17 capacity value in all four MISO capacity market seasons. As shown by AES Indiana  
18 Confidential Attachment GAC-2R, AES Indiana expects these augmentation events to  
19 occur in [REDACTED]. The exact timing of the augmentation events will  
20 depend on the operational characteristics of the BESS, such as the degradation levels of  
21 the batteries. Therefore, the Commission should conclude it is unnecessary for the

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<sup>2</sup> AES Indiana's response to OUCC DR 2-5 is attached to my rebuttal testimony as AES Indiana Confidential Attachment GAC-1R.



1 Commission to order the Company to perform periodic augmentation. Should the  
2 Commission conclude otherwise, I would add that any direction from the Commission on  
3 this topic should not be overly prescriptive; to conclude otherwise may inadvertently limit  
4 operational flexibility over the life of the Project.

5 **Q11. Is the estimated cost of augmentation included in the economic analysis supporting**  
6 **the Project?**

7 A11. Yes. The estimated cost of augmentation is reasonably included in the Project PVRR  
8 analysis I discuss above.

9 **Q12. Should the Commission adopt the OUCC proposal regarding periodic progress**  
10 **reports for the Project?**

11 A12. No. AES Indiana continues to believe that the value of ongoing reporting requirements  
12 should be balanced with the cost to the Company of compiling the information and the  
13 associated need for the Commission to devote resources to review the reported information.  
14 Augmentation will be performed in the future. I provide the expected augmentation  
15 schedule, which is confidential, above. The OUCC testimony does not explain what  
16 additional information it expects the Company to report on. While I understand the  
17 OUCC's desire to remain apprised of the operations of the Project, it is unreasonable to  
18 impose an indefinite project reporting requirement due to the newness of a resource type.  
19 BESS resources may no longer be considered a "new" resource type at some point during  
20 the Project's 20-year life.

21 If the Commission desires additional information on this subject it could solicit it during  
22 the ongoing operation of the Project. Also, the capacity value of the Project will be

1 reflected annually in the annual report that AES Indiana is required to file with the  
2 Commission pursuant to Ind. Code § 8-1-8.5-13(l). (i.e., HEA 1520 Report).

3 That said, should the Commission determine that a reporting requirement should be  
4 adopted in this docket, AES Indiana proposes that the Company be directed to provide an  
5 annual progress report regarding the status of the Project and its augmentation beginning  
6 one year following the Commercial Operation Date of the Project and concluding one year  
7 after the first augmentation of the BESS. The report could be submitted as a compliance  
8 filing under this docket (subject to the protection of confidential information). This  
9 approach will reasonably balance the value of the reports with the cost of complying with  
10 the reporting requirement.

### 11 **III. DECOMMISSIONING AND FIRE SAFETY**

12 **Q13. Please summarize the OUCC recommendation regarding the requirement of a**  
13 **decommissioning plan for the Project.**

14 A13. The OUCC recommends that the final CfD should include a decommissioning plan and the  
15 estimated associated costs must be included and supported by a financial instrument to be  
16 posted when the Pike Project begins commercial operation. Pub. Ex. 1 at 1, 2, 10, 12; Pub.  
17 Ex. 3 at 9, 11.

18 **Q14. Do you agree with this recommendation?**

19 A14. No. AES Indiana is a public utility. AES Indiana, through its subsidiaries, will manage  
20 and operate the Project. Therefore, as the managing member of the Project, AES Indiana  
21 will be responsible for the decommissioning activities associated with the Project. AES  
22 Indiana witnesses Rogers and Illyes also address this OUCC recommendation.

1    **Q15. Please summarize the OUCC recommendation regarding insurance for the Project.**

2    A15. The OUCC recommends that evidence of insurance be required that will pay for the  
3       replacement of the BESS to its initial capacity and clean-up for the life of the CfD in the  
4       event of a thermal incident. Pub. Ex. 3 at 7, 11.

5    **Q16. Should the Commission adopt this proposal?**

6    A16. No. As I stated above, AES Indiana, through its subsidiaries, will prudently manage and  
7       operate the Project. As part of this prudent management and operation, AES Indiana,  
8       through its subsidiaries, already plans to procure insurance to protect its customers in the  
9       event of a thermal incident. The expected cost of such insurance was reflected in the PVRR  
10      analysis of the Project presented in AES Indiana witness Powers's direct testimony. See  
11      AES Indiana Witness DSP Confidential Workpaper 2. Therefore, a Commission  
12      requirement for AES Indiana to provide evidence of insurance that will pay for the  
13      replacement of the battery to its initial capacity and clean-up for the life of the CfD in the  
14      event of a thermal incident is unnecessary and overly prescriptive. I would add that any  
15      direction from the Commission on this topic should not be overly prescriptive; to conclude  
16      otherwise may inadvertently limit the Company's ability to act in the best interest of its  
17      customers should the Project experience a thermal incident.

18   **Q17. Please summarize the OUCC recommendation regarding fire safety training.**

19   A17. The OUCC recommends AES Indiana conduct BESS safety and fire training annually with  
20      the local fire department and Pike County Emergency Management for the term of the CfD.  
21      Pub. Ex. 1 at 12; Pub. Ex. 3 at 7, 11.

1 **Q18. Please respond to this recommendation.**

2 A18. As a general matter, the Company does not oppose coordination with local first responders.

3 AES Indiana, through its subsidiaries, will prudently manage and operate the Project,

4 which requires compliance with all federal, state, local, and other relevant safety

5 requirements throughout the life of the Project. As I explained in my direct testimony (pp.

6 25-26) and AES Indiana explained in its response to OUCC DR 1-14 (Pub. Ex. 3,

7 Attachment RS-1), the Project will comply with House Enrolled Act (“HEA”) 1173 (2023).

8 AES Indiana’s response to OUCC DR 1-14 further details the Project’s expected plan to

9 comply with HEA 1173, including compliance with the National Fire Protection

10 Association’s standards for energy storage systems, submission of an emergency response

11 plan to the local fire department in or around the fourth quarter of 2023, and training to the

12 local fire department in or around the second quarter of 2024 during the construction stage

13 of the Project before starting commissioning activities. The Company expects to continue

14 to engage on an as needed basis with the local fire department to keep the emergency

15 response plan, including training, updated. The OUCC testimony acknowledges HEA

16 1173 already directs how this subject should be addressed. See Pub. Ex. 3 at 7. The OUCC

17 testimony fails to adequately justify an additional Commission effort to alter the structure

18 so recently adopted by the General Assembly.

19 To the extent the Commission requires AES Indiana to conduct fire safety training

20 requirements beyond existing federal, state, local, and other relevant safety requirements,

21 AES Indiana should be allowed to defer and timely recover the costs associated with

22 additional regulatory mandate regarding the conduct of such training.

1 **IV. PROJECT COST COMPARISON**

2 **Q19. On pp. 7-10 of his testimony, OUCC witness Hanks compares the CfD capacity fixed-**  
3 **price of \$ [REDACTED]/kW-month to MISO Zone 6 market value of CONE in the 2022/2023**  
4 **PRA of \$7.21/kW-month. Is this an appropriate comparison to make?**

5 A19. No. These values are not an equivalent (“apples-to-apples”) representation of the cost of  
6 capacity \$/kW-month.

7 **Q20. Please elaborate.**

8 A20. The CFD fixed capacity price is a financial instrument used in lieu of a Power Purchase  
9 Agreement that “allows AES Indiana to utilize the tax benefits of the Pike Project for the  
10 benefit of AES Indiana’s customers.” (Cooper Direct at 31). The OUCC comparison  
11 disregards other valuable attributes of the project that financially benefit AES customers  
12 as opposed to a capacity purchase. There is a value that accrues to customers through the  
13 FAC for energy arbitrage, i.e., charging the BESS with relatively lower priced market  
14 energy and discharging the BESS at times when the energy has a higher value in the market  
15 due to system demand – there is no such value under a MISO capacity market purchase.  
16 The Project will also receive revenue for providing MISO ancillary services and that value  
17 will be passed through to customers. Finally, customers will receive credit through the  
18 FAC for cash distributions under the Joint Venture, LLCA, as I explained in my direct  
19 testimony, Q/A 57 and Figure 1 (pp. 33-34). These benefits are not considered in the  
20 \$ [REDACTED]/kW-month fixed capacity price under the CfD making the \$ [REDACTED]/kW-month an  
21 incomplete value to compare to MISO Zone 6 market value of CONE.

22 **Q21. Are there other reasons why it is inappropriate to make this comparison?**

1 A21. Making this comparison assumes that it would be reasonable for AES Indiana to rely on  
2 the MISO market for capacity in the long-term as opposed to obtaining capacity through  
3 an asset transfer arrangement, like the Pike Project, or a Purchase Power Agreement  
4 (“PPA”). This approach is at odds with AES Indiana’s strategy for capacity planning which  
5 is guided by the IURC and the State. In the IRP planning process, AES Indiana targets  
6 meeting 100% of its capacity obligation (seasonal peak loads + MISO reserve margin)  
7 through firm capacity from supply-side (through Asset Transfer Agreements or PPAs) and  
8 demand side resources. Pursuant to 170 IAC 4-7-8(c)(5), utilities in Indiana are tasked  
9 with conducting “[a]n analysis showing the preferred resource portfolio utilizes supply-  
10 side resources and demand-side resources that safely, reliably, efficiently, and cost-  
11 effectively meets the electric system demand taking cost, risk, and uncertainty into  
12 consideration.” Relying on MISO capacity market transactions in the long-term puts AES  
13 Indiana customers at risk for market price volatility and reliability issues due to insufficient  
14 capacity planning.

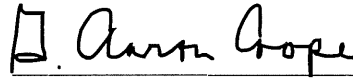
15 The OUCC suggestion that the Pike Project is expensive lacks merit because it rests on this  
16 flawed comparison. The appropriate comparison to make is to compare the Pike Project to  
17 other capacity projects available in the market for delivery by 2025 using the PVRR per  
18 MW UCAP as the evaluation metric. AES Indiana conducted this analysis in Phase 3 of  
19 its RFP process. Ultimately, the OUCC agrees with AES Indiana’s conclusion from the  
20 Phase 3 analysis that the project has a “favorable PVRR per MW UCAP compared to other  
21 projects received in the RFPs.” (Pub. Ex. 1 at 12-13). The Pike Project provides AES  
22 Indiana with a least cost option for acquiring firm capacity to meet its capacity obligation  
23 by 2025.



## VERIFICATION

I, G. Aaron Cooper, AES US Services, LLC Chief Commercial Officer, US Utilities, affirm under penalties for perjury that the foregoing representations are true to the best of my knowledge, information, and belief.

Dated: September 27, 2023.

A handwritten signature in black ink, appearing to read "G. Aaron Cooper", written over a horizontal line.

G. Aaron Cooper



**Data Request OUCC DR 2 - 5**

Will a management or operating agreement require maintenance or augmentation of the battery system to maintain a minimum level of available capacity? If so, what is the expected minimum?

**Objection:**

AES Indiana objects to the Request on the grounds and to the extent it is vague and ambiguous, particularly with respect to the phrase "management or operating agreement." Subject to and without waiver of the foregoing objections, AES Indiana provides the following response.

**Response:**

AES Indiana interprets the phrase "management agreement or operating agreement" to mean agreements between AES Indiana and the tax equity partner. The project has been designed, including augmentation events, to maintain 200 MW of capacity at 80% Depth of Discharge. The PVRR analysis sponsored by AES Indiana witness Powers includes the cost of augmentation events levelized across all years in the fixed O&M. Please see OUCC DR 2-5 Confidential Attachment 1 for the planned augmentation events. The expected degradation curve of the battery of the augmentation, if not performed, is included in OUCC DR 2-5 Confidential Attachment 2.

**AES Indiana Confidential Attachment GAC-2R**

AES Indiana's Response to OUCC DR 2-5 Confidential Attachments 1 and 2

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