

**VERIFIED REBUTTAL TESTIMONY**

**OF**

**G. AARON COOPER**

**ON BEHALF OF**

FILED  
April 23, 2021  
INDIANA UTILITY  
REGULATORY COMMISSION

**INDIANAPOLIS POWER & LIGHT COMPANY**

**D/B/A AES INDIANA**

**CAUSE NO. 45493**

IURC  
PETITIONER'S  
EXHIBIT NO. 3  
DATE 5-12-21 REPORTER LR

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ON BEHALF OF  
INDIANAPOLIS POWER & LIGHT COMPANY D/B/A 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 (“IPL” or “AES  
4       Indiana”). 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 Aaron Cooper that filed direct testimony on behalf of AES Indiana  
8       in this Cause?**

9   A3.   Yes.

10   **Q4.   Are you sponsoring any attachments?**

11   A4.   I am co-sponsoring IPL Attachment CAR-1R and 1R-C included with AES Indiana  
12       Witness Rogers testimony.

13   **Q5.   What is the purpose of your rebuttal testimony?**

14   A5.   My testimony focuses on certain matters raised in the testimony filed on behalf of the  
15       OUCC and Industrial Group.<sup>1</sup>

16   **Q6.   Please summarize the OUCC positions you respond to in your testimony.**

17   A6.   OUCC Witness Boerger (p. 15) states:

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

1 I conclude IPL's Hardy Hills project LCOE falls within a reasonable range of joint  
2 venture projects, even after accounting for the issue I discuss above with IPL's  
3 LCOE calculations. I further conclude IPL's current levels of renewable energy  
4 penetration do not provide cause for concern at this time in regard to the concerns  
5 raised in MISO's recent RIIA report. However, I recommend IPL present more  
6 detailed information to explain why it did not choose similar RFP responses with  
7 significantly lower LCOE values.

8 With respect to future CPNC applications and other matters, Dr. Boerger (pp. 15-16)  
9 summarizes as follows:

10 First, I identified an incomplete evaluation on IPL's part pertaining to the benefits and  
11 costs of owning facilities vs using PPA structures when obtaining renewable energy. I  
12 recommend IPL take a more balanced view of these two options in evaluating future  
13 projects—not that such evaluation should necessarily lead to the use of PPAs; however,  
14 PPA options should not be inappropriately disadvantaged in the process. I also  
15 highlighted Hardy Hills' high interconnection cost and the need to think more carefully  
16 about how interconnection cost estimates can be effectively integrated into future  
17 decision processes. While I highlighted the importance of MISO's recent RIIA report,  
18 I accept IPL's proposal as small enough to not raise concerns along those lines.  
19 However, future proposals for intermittent resources should include review of the  
20 issues raised in the RIIA report and such issues should be addressed in IPL's future  
21 IRPs. Finally, I note IPL's increased reliance on Harding Street in meeting MISO's  
22 capacity obligations and request IPL provide information about its thought processes  
23 and plans to ensure its gas supply firmness for this facility is commensurate with its  
24 increased significance as a capacity resource.

25 My testimony responds to Dr. Boerger's request for additional information to be presented  
26 in this proceeding regarding other potential projects and his comments regarding the  
27 Company's evaluation of PPAs. AES Indiana Witness Miller addresses Dr. Boerger's  
28 comments regarding LCOE and MISO's recent RIIA report.

29 Finally, I respond to OUCC Witness Aguilar's testimony regarding the potential for  
30 increases to the Company's best estimate of Hardy Hills Project cost.

31 **Q7. As an initial matter, do you have any general comments on the OUCC testimony?**

32 A7. Yes. Dr. Boerger (pp. 2-3) mentions certain "tech to tech" meetings between the OUCC  
33 and AES Indiana personnel. On behalf of AES Indiana, I want to thank the OUCC team

1 for engaging in these discussions, which I found to be a productive means of facilitating  
2 understanding of the proposed project and associated technical details.

3 **Q8. Was AES Indiana's evaluation process biased to select owned facilities to the**  
4 **exclusion of PPAs as suggested by OUCC Witness Boerger (pp. 15-16) and Mr.**  
5 **Gorman (p. 3)?**

6 A8. No. The process was deliberate in each of the phases of evaluation to ensure that all  
7 proposed contracting structures – PPA, build transfer and demand response – were included  
8 in the evaluation, including Phase 3. While AES Indiana considered qualitative factors  
9 present for build transfer proposals it has not, at this stage, rejected any PPA proposals on  
10 this basis.

11 I would add that as noted in my Direct Testimony, Phase 3 included a PPA offered as two  
12 different proposals.<sup>2</sup> [REDACTED]

13 [REDACTED]

14 [REDACTED]

15 [REDACTED]

16 [REDACTED]

17 [REDACTED]

18 **Q9. Dr Boerger (p. 5) states that "Other things being equal, projects with lower LCOEs**  
19 **are better for consumers." Please respond.**

20 A9. I agree with Dr. Boerger. However, as we know, all other things are never equal. For that  
21 reason, qualitative issues are reasonably and necessarily taken into consideration, as Dr.

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<sup>2</sup> AES Indiana Witness Cooper Direct Testimony, p. 13, lines 18-19.

1 Boerger also suggests in his testimony. See Q/A 12 and Q/A 14 below for discussion of  
2 proposal circumstances and additional details regarding other proposals that advanced to  
3 Phase 3.

4 **Q10. Dr. Boerger (p. 7) suggests that the Company “gave up on the opportunity to obtain**  
5 **a significantly lower cost resource” and asks the Company to address this concern.**  
6 **Mr. Gorman (p. 6) also notes that Hardy Hills is not the lowest cost Phase 3 project.**  
7 **Does the selection of Hardy Hills indicate the exclusion of any other specific proposal**  
8 **in Phase 3 of the RFP evaluation?**

9 A10. No. The selection of Hardy Hills does not exclude any of the other proposals advanced to  
10 Phase 3. The Company continues to engage in negotiations with RFP respondents. AES  
11 Indiana has a need, as expressed in my testimony, of approximately 250 MW of near-term  
12 replacement unforced capacity (UCAP).<sup>3</sup> AES Indiana intends to make a filing for at least  
13 one additional project. I confidentially address the availability, development stage and  
14 negotiation stage of other proposals later in my testimony.

15 The process of selecting a project is complex. There are tradeoffs between project costs  
16 and qualitative factors. The Company’s PVRR analysis shows the Hardy Hills Project is  
17 a reasonable least cost option. The negotiation process involves two parties. The Company  
18 does not have control over the pace at which counterparties are willing to engage in the  
19 negotiation process. Furthermore, the bid proposals are subject to due diligence,  
20 negotiation and changes to costs. We were able to negotiate and secure the Hardy Hills

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<sup>3</sup> AES Indiana Witness Cooper Direct Testimony, p. 3, lines 16-17.

1 Project and its various benefits including its advanced stage of development, which in turn  
2 reduces risk of completion by the desired COD.

3 **Q11. Why was Hardy Hills the first project contracted and filed?**

4 A11. In addition to the 30-year PVRR that is favorable to customers, that is to say the present  
5 value revenue requirement over the term is negative, Hardy Hills quickly stood out as the  
6 clear leader among the candidate projects for its stage of development as we began direct  
7 discussions with the respondents on the final list. Hardy Hills was more advanced,  
8 including, as examples, having executed lease agreements, clear permitting plans and  
9 community engagement.

10 At the earliest stage of our direct discussions and negotiations, there were clear distinctions  
11 regarding the stage of development among the proposed projects and corresponding  
12 confidence in successful project COD prior to the start of the 2023/24 MISO capacity year  
13 – Invenergy was the strongest in that regard as well. IPL Witness MRT Confidential  
14 Workpaper 12(C) is a useful reference in this regard as [REDACTED], which is Hardy Hills,  
15 was characterized as [REDACTED] in the [REDACTED]  
16 category. Only one other project representing three proposals in Phase 3 received [REDACTED]  
17 [REDACTED] in the category. Across the 14 categories in the Sargent & Lundy Phase 2  
18 Qualitative Evaluation Summary (IPL MRT Confidential Workpaper 12(C)), Hardy Hills  
19 had more [REDACTED] ratings (six), than any of the remaining proposals, and  
20 it had no “Does Not Meet Expectations” ratings.

21 In addition to the Hardy Hills Project being at a more advanced stage of development, the  
22 counterparty was willing to dedicate the resources to negotiate in a timely manner on the  
23 desired timeline. Invenergy is a reputable, highly competent counterparty and

1 demonstrated flexibility in negotiating key terms, including the allocation of risks between  
2 the parties. Hardy Hills was more immediately contract compliant and willing to engage  
3 on the standard approach from our RFP terms of reference based on the term sheet provided  
4 in the RFP.

5 **Q12. How did AES Indiana approach due diligence and negotiation with the multiple**  
6 **respondents that advanced to Phase 3?**

7 A12. AES Indiana initiated discussions with Phase 3 respondents concurrently. All respondents  
8 received a formal communication from AES Indiana informing them that their proposal or  
9 proposals had been shortlisted. All PPA and build transfer respondents received a due  
10 diligence questionnaire designed to formally determine the company attributes and project  
11 status meant to be the basis for negotiation. The questionnaire covered the following  
12 categories:

- 13 A. Organization and Authority
- 14 B. Real Estate
- 15 C. Operations
- 16 D. Contracts
- 17 E. Insurance and Risk Management
- 18 F. Health and Safety
- 19 G. Financial and Accounting; Debt
- 20 H. Taxes and Equity
- 21 I. Litigation
- 22 J. Compliance with Laws
- 23 K. Environmental

1 L. Intellectual Property

2 M. IT Systems and Networks; Privacy and Data Security

3 N. Labor and Employment

4 The responses to the questionnaire from all Phase 3 respondents were limited or not fully  
5 complete. Hardy Hills provided the most complete response, reflecting the advanced  
6 development of the project. [REDACTED]

7 [REDACTED]  
8 [REDACTED] This, it turns out,  
9 reflected the relative stage of development for this group of proposals. That does not  
10 preclude ongoing negotiation with that respondent but illustrates that it is a more protracted  
11 negotiation where most of the documentation is filled in as the negotiation progresses.

12 [REDACTED]  
13 [REDACTED]  
14 [REDACTED]

15 AES Indiana simultaneously negotiated with the willing Phase 3 participants and was able  
16 to complete due diligence and negotiation of acceptable terms for Hardy Hills. [REDACTED]

17 [REDACTED]  
18 [REDACTED] As discussed elsewhere in this testimony, the Company does

19 not have control over the pace at which counterparties are willing to engage in the  
20 negotiation process or provide the information necessary for the due diligence process.

21 **Q13. Were proposals offered on an exclusive basis to AES Indiana?**

22 A13. No. The proposals were not offered to AES Indiana on an exclusive basis. As indicated  
23 above, respondents were also in control at the pace at which they engaged in negotiations



1 and responded to the due diligence process. Also, respondents could, at any time, withdraw  
2 a proposal from consideration. This has occurred with proposals offered in response to the  
3 RFP and includes proposals that were a part of the Phase 2 and Phase 3 evaluations. As an  
4 example, proposal [REDACTED]  
5 [REDACTED] was initially on the Phase 2 proposal list and evaluation, and was  
6 withdrawn by the respondent because it had entered into an exclusivity agreement with  
7 another party for a PPA.

8 **Q14. Are all proposals at a relatively equal stage of development?**

9 A14. As I touched on in Q/A 12, they are not. Developers approach the preparation of these  
10 projects differently, with some waiting to deploy resources for many key aspects of the  
11 projects until much later in the process. Earlier stage development proposals necessarily  
12 slow contract negotiation to permit resolution of the open or insufficiently complete  
13 elements or to negotiate contractual terms that address the associated risk to AES Indiana  
14 and customers created by such uncertainty.

15 Another important point to note in this regard is that as due diligence proceeds on all  
16 proposals, but particularly on earlier development stage proposals, [REDACTED]

17 [REDACTED]

18 [REDACTED]

19 [REDACTED]

20 [REDACTED], as examples. Because Hardy Hills was the first project  
21 to go through the full process, the Phase 3 Ranking Analysis does not necessarily reflect  
22 the [REDACTED].

1 Q15. Dr. Boerger (pp. 6 and 7) identifies two solar-only build transfer projects comparable  
2 in size and that have lower LCOE values than Hardy Hills. Please discuss why neither  
3 of these proposals were contracted before Hardy Hills.

4 A15. In Q/A 12, I explained that the identified projects, [REDACTED]

5 [REDACTED]

6 [REDACTED]

7 [REDACTED]

8 [REDACTED]

9 [REDACTED]

10 [REDACTED]

11 [REDACTED]

12 [REDACTED]

13 [REDACTED]

14 [REDACTED]

15 [REDACTED]

16 [REDACTED]

17 [REDACTED]

18 [REDACTED]

19 [REDACTED]

20 [REDACTED]

21 Finally, AES Indiana Witness Moe (Q/A 12) also concluded that the Hardy Hills cost, as  
22 measured by LCOE, is well within the range of costs from other comparable projects that  
Leidos analyzed.

1 Q16. OUCC Witness Aguilar raises the potential for the best estimate of the Hardy Hills  
2 Project cost to increase. What contractual protections are included in the MIPA with  
3 Invenergy to limit the possibility of project cost increases?

4 A16.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

19 Q17. In Witness Gorman's testimony (p. 5, lines 24-31), he states that "IPL should provide  
20 greater assurances that major equipment guarantees on the development of the  
21 Hardy Hills facilities will be transferred to the Project and that JVs will have  
22 assurance from the major equipment manufacturers that the Project's major  
23 facilities' operations will align with reasonable expectations of the performance, and

1       the major equipment suppliers will honor all warranties, guarantees and  
2       commitments to the Project.” Please respond.

3     A17. As an initial matter, it is a misconception that the warranties need to be transferred to the  
4       Joint Venture. AES Indiana, through a subsidiary is acquiring ProjectCo and will  
5       ultimately transfer ProjectCo to the Joint Venture. The warranties will be favor of  
6       ProjectCo. No “transfer” is necessary under the deal structure to keep the warranties with  
7       the Project.

8       The executed MIPA is included with my direct testimony (IPL Confidential Attachment  
9       GAC-1). [REDACTED]

10      [REDACTED]

11      [REDACTED]

12      [REDACTED]

13      [REDACTED]

14      [REDACTED]

15      [REDACTED]

16      [REDACTED]

17      [REDACTED]

18      [REDACTED]

19       The warranties, including the warranties relating to the equipment, directly benefit  
20       ProjectCo as the owner of the equipment and the counterparty to the various agreements in  
21       which the warranties are granted, and will indirectly benefit the Joint Venture by virtue of  
22       the Joint Venture’s eventual ownership of ProjectCo.

1 Q18. Dr. Boerger (pp. 2, 14-15) requests AES Indiana to provide information as to how  
2 AES Indiana is planning for reliability of Harding Street Station gas supply in light  
3 of the retirement of Petersburg Units 1 and 2. Please respond.

4 A18. Currently Harding Street operates as a peaking power plant. [REDACTED]

5 [REDACTED]

6 [REDACTED]

7 [REDACTED]

8 [REDACTED]

9 [REDACTED]

10 [REDACTED]

11 [REDACTED]

12 [REDACTED]

13 [REDACTED]

14 [REDACTED]

15 [REDACTED]

16 [REDACTED]

17 [REDACTED]

18 [REDACTED]

19 [REDACTED]

20 [REDACTED]

21 [REDACTED]

22 [REDACTED] AES Indiana continuously monitors the supply needs

23 for its generation assets. As AES Indiana transitions the portfolio to include more

1 renewable resources and reduces its reliance on coal with the retirement of Petersburg Unit  
2 2, we will continue to evaluate the optimal supply arrangement in order to continue to  
3 provide safe, reliable and sustainable service for AES Indiana customers. To that end, AES  
4 Indiana commits to provide further information on its evaluation of the firmness needs for  
5 gas supply at the Harding Street Station in one of the next four FAC dockets, and to meet  
6 with the OUCC (and Intervenors if interested) prior to this filing to discuss AES Indiana's  
7 analysis.

8 **Q19. OUCC Witness Aguilar (pp. 3-4) states that there are three unexecuted agreements –**  
9 **the Joint Venture LLC Agreement, the TEP MIPA and the CfD.<sup>4</sup> She states that a**  
10 **Commission-imposed cap on ratepayer costs for acquiring the project provides more**  
11 **certainty. Please respond.**

12 A19. As an initial matter, I would clarify that the contract for the acquisition of the Hardy Hills  
13 Project is executed. I present the executed Membership Interest Purchase, Project  
14 Development and Construction Management Agreement ("MIPA") in my direct testimony  
15 as IPL Confidential Attachment GAC 1. This agreement includes negotiated provisions to  
16 safeguard against the impact of project cost increases. The Company has also presented  
17 the proposed CfD and terms for the Joint Venture LLCA and TEP MIPA. IPL Confidential  
18 Attachment GAC-2 provides a copy of the proposed CfD agreement. The proposed contract  
19 is based on industry standard terms that was prepared by an experienced, nationally  
20 recognized law firm, with extensive review and input by AES Indiana and AES subject  
21 matter experts. The major TEP financial assumptions – TEP return percentage, cash and

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<sup>4</sup>Witness Aguilar's reference to unexecuted agreements are, for reference and in corresponding order, to the Limited Liability Company Operating Agreement ("Joint Venture LLCA") between TEP and IPL Sponsor, the Equity Capital Contribution Agreement and Membership Interest Purchase Agreement ("TEP MIPA") between IPL DevCo and Joint Venture, LLC transferring the ProjectCo, and Capacity Agreement and Contract for Differences ("CfD").

1 tax splits, depreciation – used in our modeling were based on what is currently being  
2 transacted upon in the market. IPL Confidential Attachment FJS-2 is a detailed term sheet  
3 that describes the terms expected to be contained in the Joint Venture LLCA and TEP  
4 MIPA. As stated by AES Indiana Witness Rogers and reflected in IPL Attachment CAR-  
5 1R, AES Indiana proposes to share updates with the OUCC as these agreements progress  
6 towards execution.

7 **Q20. Please explain why the Joint Venture documents cannot be executed now.**

8 A20. Until it is clear the project will be built and proceed, Tax Equity Partnership (“TEP”)  
9 investors will not engage in detailed diligence/negotiations as they have finite  
10 resources. This will not occur until the final regulatory approval is secured, which is the  
11 initial major milestone for the project to move forward.

12 Prior to the Joint Venture LLCA and TEP MIPA being negotiated and executed, parties  
13 will agree on major items through term sheet negotiations. The term sheet that IPL is  
14 proposing to use, is attached to Witness Salatto’s testimony as IPL Confidential  
15 Attachment FJS-2. Once the term sheet is agreed, documentation of Joint Venture LLCA  
16 will proceed.

17 The Investment Tax Credit (“ITC”) tax benefits flow to the TEP in the year the project  
18 comes on-line. For the Hardy Hills Project this is 2023. TEP’s are unable to provide  
19 commitments this far in advance for a 2023 project such as Hardy Hills as they do not yet  
20 know what their respective tax positions will be for 2023 and how much tax-equity appetite  
21 they will have. Most TEP’s are rounding out their 2021 project allocations now and are  
22 looking at providing commitments for 2022 projects.

23 **Q21. Why did AES Indiana choose not to execute the CfD at this point?**

1 A21. While we have a CfD that is ready to be executed including pricing, we view it as too early  
2 to execute it. Waiting to execute this agreement provides flexibility should facts or  
3 circumstances arise that could enable us to better optimize the CfD for our  
4 customers. While none are anticipated at this time, we are primarily thinking of changes  
5 in tax laws that could occur between now and when the project comes on-line.

6 **Q22. Please respond to the OUCC's proposed cost cap and 50/50 cost increase sharing.**

7 A22. This proposal raises some concerns from my perspective. Not all project cost increases  
8 may impact rates. For example, if there were a capital cost increase under the MIPA  
9 included with my direct testimony (IPL Confidential Attachment GAC-1) and that cost  
10 increase related to ITC eligible investment, that circumstance could result in an increase in  
11 the TEP contribution (beyond that reflected in this case) and no increase in AES Indiana's  
12 investment (which is net of the TEP contribution). If there were no increase in AES  
13 Indiana's investment, then the AES Indiana capital investment that would be reflected in  
14 rates would not increase.

15 The Company's analysis shows the Hardy Hills Project has a favorable PVRR. From a  
16 revenue requirements perspective, even if project cost changes would cause this benefit to  
17 decrease, customers are not adversely affected until this benefit becomes a cost to the  
18 consumer.

19 AES Indiana is not in control of all circumstances that might cause a cost increase, such as  
20 a force majeure event or change in law. Should such events occur, it is reasonable to  
21 present any resulting cost impact to the Commission for a decision regarding cost recovery.

22 Finally, the Company has taken reasonable steps to limit risk and the potential for cost  
23 increases.



1   **Q23. What is AES Indiana's recommendation on this issue?**

2   A23. To reduce controversy, AES Indiana recommends this issue be resolved by the  
3       modifications set forth in IPL Attachment CAR-1R (Sections 1-4). The proposed  
4       modifications reasonably balance the cap and cost sharing concept proposed by the OUCC  
5       with the concerns stated above.

6   **Q24. Dr. Boerger states that the interconnection cost for Hardy Hills is high (p. 8) and goes**  
7       **on to discuss whether AES Indiana could have known earlier in the evaluation**  
8       **process the level interconnection cost. Would earlier knowledge of the**  
9       **interconnection cost for Hardy Hills have excluded the proposal from Phase 3 or**  
10      **changed the outcome?**

11   A24. Interconnection costs can be a significant contributor to the costs for any development  
12       project. Over time as more solar, wind and other projects are developed, relatively  
13       inexpensive interconnections will presumably become less available. See my direct  
14       testimony Q/A 29.

15       In the case of Hardy Hills, knowing the level of transmission cost sooner would not have  
16       changed the outcome. As discussed in my direct testimony, AES Indiana did not exclude  
17       any Phase 2 projects from Phase 3 based on their PVRR analysis result. Hardy Hills has a  
18       favorable PVRR for customers and is a reasonable least cost option. We recognize the  
19       need to incorporate the best information into RFP evaluations as early as practicable. AES  
20       Indiana will continue to seek ways to reasonably determine and incorporate the  
21       interconnection costs into our future RFP evaluation processes as early in the process as  
22       feasible.

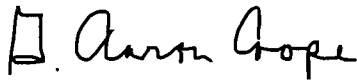
23   **Q25. Does this conclude your pre-filed rebuttal testimony?**

1 A25. Yes.

### VERIFICATION

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

Dated: April 23, 2021

A handwritten signature in black ink, appearing to read "G. Aaron Cooper". The signature is written in a cursive, flowing style.

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G. Aaron Cooper