

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

VERIFIED PETITION OF INDIANAPOLIS POWER &)
LIGHT COMPANY D/B/A AES INDIANA (“AES)
INDIANA”) AND AES PIKE COUNTY ENERGY)
STORAGE, LLC FOR (1) APPROVAL OF A STAND-)
ALONE BATTERY ENERGY STORAGE SYSTEM)
PROJECT AT PETERSBURG STATION (“PIKE COUNTY)
PROJECT”), INCLUDING A JOINT VENTURE)
STRUCTURE BETWEEN AN AES INDIANA)
SUBSIDIARY AND ONE OR MORE TAX EQUITY)
PARTNERS AND A CAPACITY AGREEMENT AND)
CONTRACT FOR DIFFERENCES BETWEEN AES)
INDIANA AND THE AES SUBSIDIARY PROJECT)
COMPANY THAT HOLDS THE PIKE COUNTY)
PROJECT, AS A CLEAN ENERGY PROJECT AND)
ASSOCIATED TIMELY COST RECOVERY UNDER IND.)
CODE § 8-1-8.8-11; (2) APPROVAL OF ACCOUNTING)
AND RATEMAKING FOR THE PIKE COUNTY)
PROJECT, INCLUDING AN ALTERNATIVE)
REGULATORY PLAN UNDER IND. CODE § 8-1-2.5-6 TO)
FACILITATE AES INDIANA’S INVESTMENT IN THE)
PROJECT THROUGH A JOINT VENTURE; (3))
ISSUANCE OF AN ORDER PURSUANT TO IND. CODE §)
8-1-2.5-5 DECLINING TO EXERCISE JURISDICTION)
OVER THE JOINT VENTURE, INCLUDING THE)
PROJECT COMPANY, AS A PUBLIC UTILITY AND)
DECLINING TO EXERCISE JURISDICTION UNDER TO)
IND. CODE § 8-1-8.5-2; AND (4) TO THE EXTENT)
NECESSARY, ISSUANCE OF A CERTIFICATE OF)
PUBLIC CONVENIENCE AND NECESSITY PURSUANT)
TO IND. CODE § 8-1-8.5-2 FOR THE DEVELOPMENT OF)
THE PIKE COUNTY PROJECT BY A WHOLLY OWNED)
AES INDIANA SUBSIDIARY)

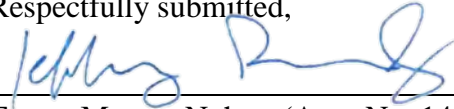
CAUSE NO. 45920

**PETITIONER’S SUBMISSION OF DIRECT TESTIMONY OF
G. AARON COOPER**

Indianapolis Power & Light Company d/b/a AES Indiana (“AES Indiana” or “Petitioner”),

by counsel, hereby submits the direct testimony and attachments of G. Aaron Cooper.

Respectfully submitted,



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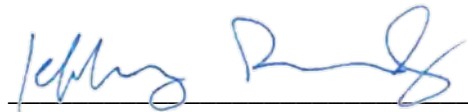
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CERTIFICATE OF SERVICE

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

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VERIFIED DIRECT TESTIMONY

OF

G. AARON COOPER

ON BEHALF OF

INDIANAPOLIS POWER & LIGHT COMPANY

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

**SPONSORING AES INDIANA CONFIDENTIAL ATTACHMENTS GAC-1 AND GAC-2,
AND AES INDIANA ATTACHMENT GAC-3**

**VERIFIED DIRECT TESTIMONY OF G. AARON COOPER
ON BEHALF OF AES INDIANA AND AES PIKE COUNTY ENERGY STORAGE, LLC**

1. INTRODUCTION

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

A1. My name is G. Aaron Cooper. My business address is One Monument Circle, Indianapolis, Indiana 46204.

Q2. What is your position with AES Indiana?

A2. I am employed by AES US Services, LLC, as Chief Commercial Officer, US Utilities.

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

A3. I am submitting this testimony on behalf of AES Indiana and AES Pike County Energy Storage, LLC, also generally referred to herein as “Company” for ease of reference.

Q4. Please describe your duties as Chief Commercial Officer, US Utilities.

A4. In my current position, I am responsible for commercial strategy for the US utilities, AES Indiana and AES Ohio, and my responsibilities include managing and directing the commercial operations and resource planning departments of AES Indiana. Given my extensive commercial experience with electric generation and associated plant economics that I will further describe in Q/A 6 below, I worked with the team that developed the AES Indiana All-Source Request for Proposals (“RFP”) and coordinated the evaluation of the resulting proposals received and selection of proposals. I am also a member of the due diligence and contract negotiation core team.

Q5. Please summarize your educational and professional qualifications.

1 **A5.** I received a Bachelor of Science degree, summa cum laude, from Miami University in
2 1991. I have over 30 years of utility experience ranging from T&D Operations to
3 Regulatory Operations, and extensive Commercial Operations experience.

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

5 **A6.** I assumed the role of Chief Commercial Officer, US Utilities, in January 2021. Most
6 recently I was Director, Regulatory and Financial Activities - T&D Investments, for AES
7 US Services, LLC. For over a decade, I was the Director of Fuel Supply in Commercial
8 Operations, first for the Dayton Power & Light Company (“DP&L”) generating assets
9 located in Ohio and subsequently for all non-AES Indiana, AES-owned solid fuel
10 generating stations in the US, where I was responsible for fuel planning and procurement,
11 logistics, and contract administration. I previously worked in DP&L’s Regulatory
12 Operations as Manager of Retail Pricing, as a Manager and Account Manager in DPL Inc.’s
13 unregulated retail electric service subsidiary DPL Energy Resources, and in the DP&L
14 distribution business in major customer account management and supervision of various
15 operational functions including electric construction, field service, and meter reading.

16 **Q7. Have you previously testified before a state regulatory commission?**

17 **A7.** Yes. I provided testimony in AES Indiana’s CPCN filing in Indiana Utility Regulatory
18 Commission (“Commission” or “IURC”) Cause Nos. 45493 and 45493-S1 (Hardy Hills
19 Solar) and 45591 and 45832 (Petersburg Energy Center). I also testified in Cause No.
20 45744 (HEA 1520). In Ohio, I have provided testimony supporting DP&L’s Fuel
21 Adjustment Clause before the Public Utilities Commission of Ohio in Case No. 11-5730-
22 EL-FAC and Case No. 12-2881-EL-FAC.

1 **Q8. What is the purpose of your testimony in this proceeding?**

2 **A8.** My testimony provides an overview of the proposed battery energy storage system
3 (“BESS”) facility to be known as Pike County Battery Energy Storage Project (“Pike
4 Project” or “Project”) located on the site of the AES Indiana Petersburg Generating Station
5 and utilizing interconnection rights from the retiring Unit 2 coal-fired generator. My
6 testimony supports the Commission approval of the Project, focusing in particular on the
7 following additional subjects:

- 8 1. The Project is a reasonable and necessary Clean Energy Project.
- 9 2. The Project is consistent with the Company’s 2022 IRP Preferred Resource
10 Portfolio and a reasonable least cost choice compared to other resources bid into
11 AES Indiana 2022 All Source RFP (“All-Source RFP”).
- 12 3. The Best Estimate of the Project cost is reasonable and results from the
13 competitively bid and negotiated Engineering, Procurement, and Construction
14 Agreement (“EPC”).
- 15 4. The Company’s proposal to use a Capacity Agreement and Contract for
16 Differences (“CfD”) is reasonable.
- 17 5. The Project timeline and Company’s plans to manage the construction of the
18 proposed Pike Project are reasonable.
- 19 6. Commission approval of the Project serves the public convenience and necessity.
- 20 7. The proposed Project and associated requests for relief are consistent with Indiana
21 energy policy and reasonably consider each of Five Pillars of electric utility service
22 enumerated in House Enrolled Act (“HEA”) 1007, effective July 1, 2023 and

1 codified at Ind. Code § 8-1-2-0.6, namely: Reliability, Affordability; Resiliency,
2 Stability; and Environmental Sustainability.

3 8. Commission approval of the proposed Clean Energy Project on a 120-day
4 procedural schedule is reasonable and facilitates a construction timeline that seeks
5 to avoid the purchase of additional capacity for the 2025 period.

6 **Q9. Are you sponsoring any attachments?**

7 **A9.** I am sponsoring the following attachment(s):

<u>AES Indiana Confidential Attachment GAC-1</u>	Engineering, Procurement and Construction Agreement (“EPC”)
<u>AES Indiana Confidential Attachment GAC-2</u>	High Voltage Substation Engineering and Procurement Contract
<u>AES Indiana Confidential Attachment GAC-3</u>	Pike County Project GAO 2022-01 Regional Transmission Organization information

8
9 **Q10. Were these attachments prepared or assembled by you or under your direction and**
10 **supervision?**

11 **A10.** Yes.

12 **2. OVERVIEW OF PIKE COUNTY PROJECT AND RELIEF SOUGHT**

13 **Q11. Please provide an overview of AES Indiana’s ongoing effort to meet the need for**
14 **electric service in AES Indiana’s service territory.**

15 **A11.** AES Indiana strives to deliver safe, reliable and affordable electric service and facilities to
16 customers in the City of Indianapolis and surrounding central Indiana communities. The
17 Petition in this proceeding stems from the Company’s 2022 Integrated Resource Plan
18 (“IRP”), the planning tool used by the Company to determine how to meet the ongoing

1 need for reliable and economic electricity in the Company’s service area. AES Indiana
2 witness Miller describes the 2022 IRP and particularly, the Preferred Resource Portfolio
3 and Short Term Action Plan in detail. Company witness Miller explains the 2022 IRP
4 analysis identified a need for approximately 240 MW installed capacity (“ICAP”) BESS
5 to fill the winter capacity position in 2025. The Pike Project helps meet this need with 200
6 MW ICAP of the BESS capacity identified in the 2022 IRP and with the lowest present
7 value revenue requirement (“PVRR”) per MW/UCAP as compared to offers received in
8 the All-Source RFP that include BESS resources.

9 **Q12. Please identify the Project which is the subject of the Petition.**

10 **A12.** Pike County Energy Storage (also referred to herein as the Pike County Project) is a
11 standalone project composed by two sets of 100 MW/4-hour (total expected output 800
12 MWh at 80% of discharge level) that will be connected to two 34.5/345 kV transformers
13 included in a single collector substation. Batteries will be distributed via independent
14 enclosures that feed separate inverters that interconnect on medium voltage level (34.5 kV).
15 The Project will be built on a 26-acre footprint, on the existing Petersburg Generating
16 Station property already owned by AES Indiana. The Project will interconnect through a
17 0.6 mile long 345 kV transmission line to the Petersburg Substation, where the point of
18 interconnection (“POI”) has been defined, qualifying as a replacement capacity resource
19 for Petersburg Unit 2. The Project is expected to be eligible for 40% ITC as it is located
20 in an Energy Community as defined in Inflation Reduction Act (“IRA”). COD is expected
21 by December 1, 2024. The Project expects to be fully mechanically completed by [REDACTED]
22 [REDACTED]. Commissioning and testing for partial circuits will start in [REDACTED].

23 **Q13. Please summarize the relief sought in this proceeding.**

1 **A13.** As detailed in the Petition initiating this Cause, the Company requests the Commission to
2 approve the Pike Project, including the EPC and joint venture structure, as a reasonable
3 and necessary Clean Energy Project. To encourage the development of the Project, the
4 Company requests the Commission approve the capacity agreement and contract for
5 difference between AES Indiana and AES Pike County Energy Storage and authorize the
6 recovery of costs and associated accounting treatment, including Project Development
7 Costs, as explained by AES Indiana witness Rogers. The Pike Project will operate as a
8 capacity and energy resource in the Midcontinent Independent System Operation
9 (“MISO”) market. The Project Company that will own the Project is a subsidiary of AES
10 Indiana. An AES Indiana subsidiary will be the managing member of the Joint Venture
11 that will ultimately own the Project Company. The Company requests the Commission
12 decline to exercise jurisdiction over the Project Company and Joint Venture as a public
13 utility. AES Indiana is and will remain subject to the Commission’s full jurisdiction.
14 Finally, the stand-alone BESS Project is an energy “storage” facility not a facility “for the”
15 “generation of electricity.” As such the proposed Project does not fall under the plain
16 language of Section 2 of the Powerplant Construction Act (Ind. Code § 8-1-8.5-2) and thus
17 this statute should not apply. Should the Commission determine the Pike Project is subject
18 to Ind. Code § 8-1-8.5-2, the Company requests the Commission to decline to exercise
19 jurisdiction under Ind. Code § 8-1-8.5-2, or in the alternative, issue a CPCN pursuant to
20 Ind. Code § 8-1-8.5-2 for the development of the Pike County Project as proposed by AES
21 Indiana.

1 **Q14. Is the Pike Project a “Clean Energy Project” as that term is defined in Ind. Code ch.**
2 **8-1-8.8?**

3 **A14.** Yes. A “Clean Energy Project” as defined in the statute includes clean energy resources.¹
4 Energy storage systems or technologies are specifically listed as a clean energy resource,
5 making the Pike Project a resource the Clean Energy Project statute was designed to
6 encourage.²

7 **Q15. Is AES Indiana an eligible business under Chapter 8.8?**

8 **A15.** Yes. AES Indiana is an energy utility. Through both the proposed EPC and the proposed
9 Joint Venture, AES Indiana is proposing to undertake Clean Energy Project – namely a
10 battery energy storage system project. Therefore, the Company is eligible for relief under
11 Chapter 8.8.

12 **3. ALL-SOURCE REQUEST FOR PROPOSALS**

13 **Q16. Please describe the 2022 All-Source RFP.**

14 **A16.** The basis for economic comparison of the Pike Project is evaluation alongside offers
15 received from the 2022 All-Source RFP. AES Indiana’s 2022 All-Source RFP solicited
16 bids from qualified third parties to competitively procure replacement electric capacity and
17 energy resources beginning in the 2025–2026, 2026–2027 and/or 2027–2028 MISO
18 Planning Years. AES Indiana explicitly sought proposals that could utilize the remaining
19 interconnection rights associated with Petersburg Generating Station Unit 2 retirement, not
20 to exceed 200 MW. As discussed by AES Indiana witness Miller, AES Indiana’s 2022

¹ Ind. Code § 8-1-8.8-2, -10.

² Ind. Code § 8-1-37-4(a)(10).

1 IRP analysis identified a need for approximately 240 MW ICAP BESS to fill winter
2 capacity position in 2025 (MISO Winter Capacity Season December 2024 through
3 February 2025) and adding 550 – 1,065 MW ICAP of wind and solar as energy replacement
4 for Petersburg. While the IRP modeling indicated that a combination of wind, solar,
5 storage, and hybrid resources combining wind or solar with storage would be the
6 reasonable low-cost option for the replacement capacity and energy, the 2022 All-Source
7 RFP allowed all resource types to participate. This approach provided a means to evaluate
8 various resource technologies based on transactable prices, requested proposals to preserve
9 for customers the value of existing interconnection rights, and informed replacement
10 resources costs for the 2022 IRP.

11 **Q17. Please elaborate on the All-Source RFP request for proposals that could utilize the**
12 **remaining interconnection rights associated with Petersburg Generating Station Unit**
13 **2 retirement, not to exceed 200 MW.**

14 **A17.** In the All-Source RFP, the Company solicited proposals to take advantage of this distinct
15 benefit as follows:

16 **1.2.2 ASSET TRANSFER AGREEMENT UTILIZING MISO GENERATOR**
17 **INTERCONNECTION REPLACEMENT PROCESS**

18 AES Indiana will consider proposals that can utilize the remaining interconnection rights
19 associated with Petersburg Generating Station Unit 2 retirement, not to exceed 200 MW.
20 For these proposals, Respondents shall be responsible for demonstrating site control,
21 including an easement to reach the Petersburg Generating Station property boundary. In
22 addition, Respondents shall have the capability of providing project detail that conforms to
23 Appendix 1 of the MISO Attachment X Generator Interconnection Procedures (GIP)
24 specific to requirements of a Replacement of Existing Generating Facility with no increase
25 in capacity. Respondents are encouraged to submit bids conforming to this section in an
26 expeditious manner, no later than May 16, 2022 to determine suitability and meet the MISO
27 filing deadline of May 31, 2022. A project selected for this process is not a guarantee of
28 execution and the proposal will be evaluated against other RFP responses. Respondents
29 that submit proposals for this expedited process and are not selected will not be disqualified

1 from further evaluation in the non-expedited RFP process described in this document
2 provided the project has an existing MISO queue position.

3 **Q18. Why is it beneficial to use the remaining Unit 2 injection rights?**

4 **A18.** The ability to use the Unit 2 injection right lowers a Project interconnection risk because
5 the Project is not reliant on the MISO queue process and does not require execution by
6 third-party transmission owners to complete the interconnection, both of which create the
7 possibility for delay. This gives control over the timing of the interconnection to AES
8 Indiana and the EPC Contractor. One can also reasonably expect that using an existing
9 interconnection results in a lower cost, avoiding the prospect of network upgrades that can
10 drive up interconnection costs and contribute to potential delays.

11 **Q19. Please explain the process AES Indiana used to conduct the 2022 All-Source RFP.**

12 **A19.** AES Indiana contracted Sargent & Lundy, LLC (“Sargent & Lundy”) to manage the 2022
13 All-Source RFP process. Sargent & Lundy is an engineering consulting firm providing
14 comprehensive engineering, energy business consulting, and project services for power
15 generation and delivery systems. Sargent & Lundy acted as an independent third-party
16 consultant on behalf of AES Indiana to execute the 2022 All-Source RFP and provide a
17 preliminary evaluation of the proposals.

18 **Q20. Please generally describe the 2022 All-Source RFP process.**

19 **A20.** AES Indiana issued the 2022 All-Source RFP for capacity resources, preferably within or
20 connected to, the AES Indiana service territory. The RFP solicited proposals for all or a
21 portion of the IRP identified capacity need. AES Indiana estimated the unforced capacity
22 (“UCAP”) for wind and solar resources based on the methodology described in the MISO

1 Renewable Integration Impact Assessment, dated February 2021.³ Proposed resources
2 must be capable of delivering capacity to the MISO Local Resource Zone (“LRZ”) 6.
3 Proposed resources could include transfer of new or existing assets and power purchase
4 agreements. The 2022 All-Source RFP was issued April 14, 2022 and is further described
5 by AES Indiana witness Daou.

6 **Q21. What role did AES Indiana have in the 2022 All-Source RFP process?**

7 **A21.** AES Indiana collaborated with Sargent & Lundy to develop the RFP, including the
8 schedule, RFP documents and requirements, proposal scoring criteria and weighting
9 established for initial proposal evaluation (which was provided in the RFP), and proposal
10 data forms. In order to ensure impartiality in the evaluation and selection process, Sargent
11 & Lundy performed all administration, response accumulation, Phase 1 evaluation, and
12 reporting in a manner that maintained the anonymity of the RFP respondents to the AES
13 Indiana team. When Sargent & Lundy consulted with AES Indiana on responses to
14 respondent questions, all such communications followed a process that safeguarded the
15 anonymity of the participants.

16 **4. UNIT 2 INJECTION RIGHTS**

17 **Q22. Did the Company receive proposals through the All-Source RFP that could utilize the**
18 **remaining interconnection rights associated with Petersburg Generating Station Unit**
19 **2 retirement?**

20 **A22.** The Company received one non-conforming proposal through the All-Source RFP. The
21 proposal deficiency was that the respondent could not demonstrate the real estate control

³ <https://cdn.misoenergy.org/RIIA%20Summary%20Report520051.pdf>

1 required for the interconnection and that is an absolute requirement for the MISO filing
2 under Appendix 1 of the MISO Attachment X specific to requirements for a replacement
3 resource.

4 **Q23. What did the Company do to preserve the option to utilize the beneficial**
5 **interconnection rights?**

6 **A23.** The MISO resource interconnection replacement process requires that replacement
7 projects be submitted at least 12 months prior to the retirement date of the asset being
8 replaced (Petersburg Unit 2). The replacement project submission deadline was May 31,
9 2022 as indicated in Q/A 17 above.

10 AES Indiana engaged HDR, Inc. (“HDR”) to support developing design and completion of
11 the resource interconnection replacement application request for two 100 MW (200 MW
12 total) BESS utilizing the Petersburg Unit 2 interconnection. HDR is an employee-owned
13 design firm, specializing in engineering, architecture, environmental and construction
14 services. HDR provided the required final design documents that were submitted to MISO
15 in the replacement resource request consistent with the provisions of Section 3.7 of
16 Attachment X to the MISO tariff. HDR also provided indicative pricing for the BESS
17 project to be used in evaluation alongside the 2022 All-Source RFP responses in Phase 2
18 of the RFP bid evaluation. This ultimately became the Pike Project that is the subject of
19 the EPC included with my testimony and the Project presented to the Commission for
20 approval in this case.

21 **5. RFP BID EVALUATION**

22 **Q24. Please describe the process used to assess the responses to the 2022 All-Source RFP.**

1 **A24.** There were three distinct phases to the evaluation of the All-Source RFP.

2 Phase 1 – as briefly described in response to Q/A 19 and explained in more detail
3 in AES Indiana witness Daou’s testimony, Sargent & Lundy issued and managed
4 the RFP process and performed an independent preliminary evaluation of the
5 proposals received, including a quantitative Levelized Cost of Energy (“LCOE”)
6 for each of the proposals and a qualitative analysis based on technical viability,
7 development status, developer experience and financing plan, and qualifications.
8 The quantitative and qualitative scores were considered separately for each
9 proposal, and a minimum score for quantitative and minimum score for qualitative
10 was used to determine if proposals advanced from Phase 1 to Phase 2 – proposals
11 that scored below the minimum in either category did not advance to Phase 2. There
12 is an exception to this condition. If any form of a proposal related to a common
13 project, either asset transferor PPA, qualified to advance to Phase 2, any other
14 proposal type also advanced; *e.g.*, if the asset transfer proposal of a project qualified
15 to advance, the PPA proposal version of the same project would also advance.
16 There were 149 proposals based on 24 projects in Phase 1, representing solar, wind,
17 thermal, BESS and solar + BESS. On May 16, 2022, S&L immediately shared
18 relevant, anonymized information regarding the one proposal received that would
19 utilize the remaining interconnection rights associated with Petersburg Generating
20 Station Unit 2 retirement. As noted in Q/A 22 above, the project was non-
21 conforming because the respondent was not able to demonstrate the requisite site
22 control for the Appendix 1 of the MISO Attachment X specific to requirements for
23 replacement of an existing resource.

1 Phase 2 – consisted of more refined quantitative, qualitative, and T&D
2 considerations. This phase was collaboratively conducted with Sargent & Lundy,
3 Concentric Energy Advisors (“Concentric”), and internal AES Indiana subject
4 matter experts. This phase included production cost and revenue requirement
5 modeling. As described by AES Indiana witness Miller, AES Indiana utilized an
6 “in-house” production cost modeling tool (EnCompass). AES Indiana also retained
7 Concentric to conduct a proposal Ranking Analysis using revenue requirements
8 modeling, as described by AES Indiana witness Powers. As discussed below,
9 proposals advancing from Phase 2 evaluation moved into Phase 3 for due diligence
10 and contract negotiations.

11 Phase 3 – AES Indiana assembled a deal team to evaluate the commercial terms
12 and pricing of the remaining shortlisted proposals. Prior to Phase 3, no one on the
13 AES Indiana evaluation team had any knowledge of specific bidder identities.
14 Concentric provided analytical services related to revenue requirement
15 considerations in Phase 3.

16 **Q25. Please explain the results of the Sargent & Lundy Phase 1 evaluation process.**

17 **A25.** As discussed by AES Indiana witness Daou, the RFP resulted in 149 proposals based on
18 projects. The Sargent & Lundy Phase 1 process led to the initial culling of proposals
19 advancing to Phase 2. Those proposals included four of the five technology types or
20 combinations thereof listed in Q/A 16, being moved to Phase 2 for further evaluation. The
21 thermal project did not advance, primarily because the project had not entered the MISO
22 queue and was otherwise at a very early stage of development. As stated above, the Pike
23 Project also advanced to Phase 2 for further evaluation.

1 **Q26. Please discuss the process AES Indiana undertook to further evaluate the bids short**
2 **listed by Sargent & Lundy as a result of the Phase 1 evaluation and moved forward**
3 **to the Phase 2 Evaluation.**

4 **A26.** As noted in response to Q/A 19 above, AES Indiana retained Sargent & Lundy and
5 Concentric to support the Phase 2 evaluation. Deeper evaluation in Phase 2 necessarily
6 required additional clarification as to the subject proposals. Sargent & Lundy facilitated
7 this process to maintain the anonymity of respondents and proposals throughout Phase 2.
8 Sargent & Lundy also refined the Phase 1 qualitative evaluation based on the 16 categories
9 listed below:

- 10 • Technical Viability
- 11 • Development and Schedule Risk (including DPP cycle)
- 12 • Construction Permitting Risk
- 13 • Environmental Permitting Risk
- 14 • Site Control
- 15 • Environmental Impacts
- 16 • Respondent Experience
- 17 • Financing Plan and Qualifications
 - 18 - Debt and equity financing commitment for the project provided by a
 - 19 creditworthy entity
- 20 • T&D System Integration
- 21 • Community Impacts and Acceptance
- 22 • Public Perception Risk
- 23 • O&M Plan

- 1 • Fuel Supply Plan (as applicable)
- 2 • Exceptions to Agreements
- 3 • Tax credit qualification plan

4 AES Indiana witness Daou describes these metrics and discusses the results of the Phase 2
5 Qualitative Evaluation. AES Indiana witness Powers discusses the analytical services
6 related to the revenue requirement calculation.

7 The Phase 2 process structure was designed to merge the quantitative revenue requirement
8 analysis results with the qualitative factors and to explore whether additional critical factors
9 or sub-factors needed to be considered for the determination of proposals to be advanced
10 to Phase 3.

11 **Q27. In addition to the quantitative Ranking Analysis, what qualitative factors were**
12 **considered in selecting proposals to move forward for further analysis?**

13 **A27.** As noted in the response to Q/A 24 above, AES Indiana considered additional factors
14 beyond, or specific detailed elements within, the Sargent & Lundy Phase 2 qualitative
15 evaluation categories. AES Indiana identified the following four features for each proposal
16 in Phase 2; only the first two rising to the level of a binary decision hurdle for proposal
17 advancement to Phase 3.

18 1. As explained by AES witness Miller, the change by MISO from an annual, summer-
19 based capacity design to seasonal capacity construct materially affects resource
20 accreditation and Planning Reserve Margin for Load Serving Entities. This change
21 drives a shortfall in winter seasonal capacity in future years as identified in the IRP.

1 As a result, material winter capacity contribution was a necessary feature for proposals
2 to advance to Phase 3 – no solar-only projects advanced to Phase 3.

- 3 2. Commercial Operation Date by 2025 MISO winter season.
- 4 3. Consideration was also given to the customer price variability that would occur after
5 the expiration of a Purchase Power Agreement (“PPA”).
- 6 4. Finally, consideration was given to benefits that would result with AES Indiana
7 management and control of a build transfer. AES Indiana considered the reliability
8 benefit of direct control over day-to-day decisions and decisions on operating and
9 maintenance expenditures, which also ensures that future cost savings resulting from
10 lower operation and maintenance expenses will be passed on to customers through
11 rates.
- 12 5. Direct control creates the option for AES Indiana to respond to unexpected changes in
13 supply conditions, MISO rules, and regulatory environments. It creates the opportunity
14 for AES Indiana and its customers to benefit from advancement in technology by
15 expanding, upgrading, or modifying the facility.

16 **Q28. Please describe the process to select proposals to advance to Phase 3.**

17 **A28.** As described in Q/A 24, a Ranking Analysis was performed for all Phase 2 proposals and
18 utilized to compare among the list population on that basis. As described in Q/A 26, certain
19 critical elements affecting proposal viability in the context of AES Indiana’s requirements
20 were used as go/no-go decision factors. The entire population of proposals in Phase 2 that
21 met the criteria below were advanced to Phase 3:

- 1 1) Project provides material winter capacity under the recently implemented MISO
- 2 seasonal capacity construct.
- 3 2) Qualify to receive Zonal Resource Credits for MISO LRZ 6.
- 4 3) Commercial Operation Date by 2025 MISO winter season.

5 No proposals were excluded from Phase 3 based on their Phase 2 Ranking Analysis result.

6 If a project included a separate proposal with a different deal structure, both deal structures

7 were advanced to Phase 3 – e.g., if a project was offered as a build transfer proposal that

8 was selected to advance to Phase 3 and was also offered as a PPA, both proposals were

9 advanced to Phase 3.

10 **Q29. Please describe Phase 3.**

11 **A29.** As stated above, in Phase 3 the AES Indiana team learned the bidder identities, conducted

12 due diligence, evaluated the commercial terms and pricing of the remaining shortlisted

13 proposals, assessed development and other risks, and began direct negotiations with

14 bidders. Concentric provided analytical services related to Ranking Analysis in Phase 3.

15 AES Indiana considered its load forecast, with a particular focus on the winter capacity

16 need beginning in the winter season 2025. As the value of the tax credit is important to the

17 level of AES Indiana investment and corresponding effect on customer rates, diligence also

18 focused on tax credit qualifying status.

19 **Q30. Please discuss Concentric’s role in evaluating bid results during Phase 3.**

20 **A30.** As discussed by AES Indiana witness Powers, Concentric was retained by AES Indiana to

21 assist with the Phase 2 and 3 evaluations. Their Ranking Analysis work provided analytical

22 services in the form of revenue requirement calculations to support the evaluation of the

23 responses to AES Indiana’s All Source RFP.

1 **Q31. Please describe the development and other risks assessed by AES Indiana in Phase 3.**

2 **A31.** Development risk is important across a number of dimensions.

- 3 • AES Indiana’s 2022 IRP Preferred Resource Portfolio includes the retirements of
4 Petersburg Units 1 and 2, along with updated data and assumption affecting the
5 balance of supply and load, including the change by MISO to the seasonal capacity
6 construct and corresponding impacts to the winter season accreditation and PRM.
7 AES Indiana needs capacity beginning with the 2024-25 MISO planning year, and
8 no later than the 2025-26 Planning Year winter season. Only RFP proposals that
9 were understood at the time to have a commercial operation date (“COD”) in time
10 for the 2025-26 winter season and proposals that may qualify for interconnection
11 under the MISO rules corresponding to FERC Order No. 845 could be advanced to
12 Phase 3.
- 13 • Investment Tax Credit (“ITC”) and Production Tax Credit (“PTC”) value is
14 important to the comparative economics of projects, to the level of AES Indiana
15 investment, and to the corresponding effect on customer rates. Development plan
16 feasibility is key to proposal efficacy. In the due diligence process AES Indiana
17 has confirmed the qualification criteria and status for each of the projects.
- 18 • Given the impacts resulting from a proposal failing to achieve the expected
19 commercial operation for planning and preparedness purposes, proposal control
20 and oversight are important considerations.
- 21 • AES Indiana evaluated each Phase 3 proposal’s permitting plans and any issues that
22 may affect proposal completion and the COD.

- 1 • AES Indiana evaluated each Phase 3 proposal’s MISO queue status. Reliance on
2 execution by third-party transmission owners to complete interconnection and
3 affected system network upgrades create the possibility for delay and changes to
4 interconnection costs.

5 I discuss counterparty credit risk in Q/A 41.

6 **Q32. Did AES Indiana consider purchase of power to fill its Short Term Action Plan**
7 **capacity need?**

8 **A32.** Yes. The All-Source RFP explicitly invited the submission of PPA proposals. The
9 evaluation process was deliberate in each of the phases of evaluation to ensure that all
10 proposed contracting structures – PPA, build transfer, and demand response – were
11 included in the evaluation, including Phase 3. While AES Indiana considered qualitative
12 factors present for build transfer proposals it has not, at this stage, rejected any PPA
13 proposals on this basis. I address the advantages of build transfer proposals relative to
14 PPAs in Q/A 27. The IURC has a direct and extensive regulatory relationship with AES
15 Indiana. An AES Indiana wholly-owned subsidiary will be the managing member of the
16 Joint Venture LLC that will own the Pike ProjectCo that constructs and owns the Pike
17 Project assets.

18 **Q33. Were proposals offered on an exclusive basis to AES Indiana?**

19 **A33.** No. The proposals were not offered to AES Indiana on an exclusive basis. Respondent
20 engagement and commitment control of the pace at which they participate in negotiations
21 and respond in the due diligence process. Also, respondents could, at any time, withdraw
22 a proposal from consideration.

1 **6. OVERVIEW OF THE PIKE PROJECT SELECTION**

2 **Q34. Please describe the process by which AES Indiana selected the Pike Project.**

3 **A34.** The Pike Project performs best in the Ranking Analysis, that is, it results in the lowest
4 PVRR per MW/UCAP result among the candidate proposals. Based on the results of the
5 Phase 2 and Phase 3 Ranking Analyses and its relative superiority as compared to the
6 proposals in Phase 3 across the critical metrics described in Q/A 27 – namely 1) Project
7 provides material winter capacity under the recently implemented MISO seasonal capacity
8 construct, 2) Project qualifies to receive Zonal Resource Credits for MISO LRZ 6, and 3)
9 Project achieves COD by 2024-25 MISO winter season – the Pike Project was selected as
10 the reasonably least cost resource to provide the needed winter capacity identified in the
11 2022 IRP.

12 **Q35. AES Indiana witness Powers shows the Pike Project has a favorable PVRR per**
13 **MW/UCAP compared to projects in the Phase 3 Ranking analysis. What other**
14 **beneficial attributes does the Pike Project have?**

15 **A35.** As renewables proliferate, finding ideal interconnections is getting, and will continue to
16 get, more difficult. The Pike Project has a low interconnection cost since the Project will
17 utilize the replacement capacity provisions of the MISO tariff and is interconnecting at the
18 existing AES Indiana Petersburg Generating Station 345 kV switchyard via a tie-line from
19 the Project collector substation. In addition to the low interconnection cost, the Project is
20 not reliant upon the MISO queue process nor does it require execution by third-party
21 transmission owners to complete the interconnection, both of which create the possibility
22 for delay – this gives control over the timing of the interconnection to AES Indiana and the
23 EPC Contractor.

1 The Project benefits from utilizing acreage at the AES Indiana Petersburg Generating
2 Station, so there are no land acquisition or right-of-way acquisition costs or issues.

3 Qualitative factors also support the Pike Project. The AES Indiana All Source RFP
4 expressed a preference for Indiana resources. This preference reasonably reflects
5 consideration of deliverability, reliability, resiliency, and Indiana energy security. Further,
6 the Project is located in Pike County, which is impacted by the retirement of Petersburg
7 Generating Stations Units 1 and 2 – the Project will bring construction jobs and tax base to
8 the county. Its location facilitates AES Indiana’s ability, through the AES Indiana Sponsor
9 member of the Joint Venture, to manage operations and maintenance at the Project.

10 **Q36. How does Pike Project fit with AES Indiana’s near-term replacement winter capacity**
11 **need?**

12 **A36.** The Pike Project’s 190 MW UCAP (200 MW ICAP) and corresponding MISO Seasonal
13 Accredited Capacity (“SAC”) helps meet the 240 MW (ICAP) BESS need identified in the
14 2022 IRP. BESS is very different from intermittent resources like solar and wind because
15 it provides dispatchable capacity regardless of the season. Solar, for example, receives
16 approximately 1% SAC compared to its ICAP for the winter season – wind resources can
17 get up to 35% for the winter season.

18 **7. AES INDIANA PIKE COUNTY ENERGY STORAGE SYSTEM RFP**

19 **Q37. Did AES Indiana perform a competitive solicitation to select the EPC for the Pike**
20 **Project?**

21 **A37.** Yes. AES Indiana collaborated with Sargent & Lundy to develop and manage the Pike
22 County Energy Storage System RFP (“EPC RFP”), including the schedule, RFP documents

1 and technical specification, proposal scoring criteria and weighting established for initial
2 proposal evaluation (which was provided in the RFP), and proposal data forms.

3 **Q38. Why did AES Indiana use Sargent & Lundy to manage the EPC RFP?**

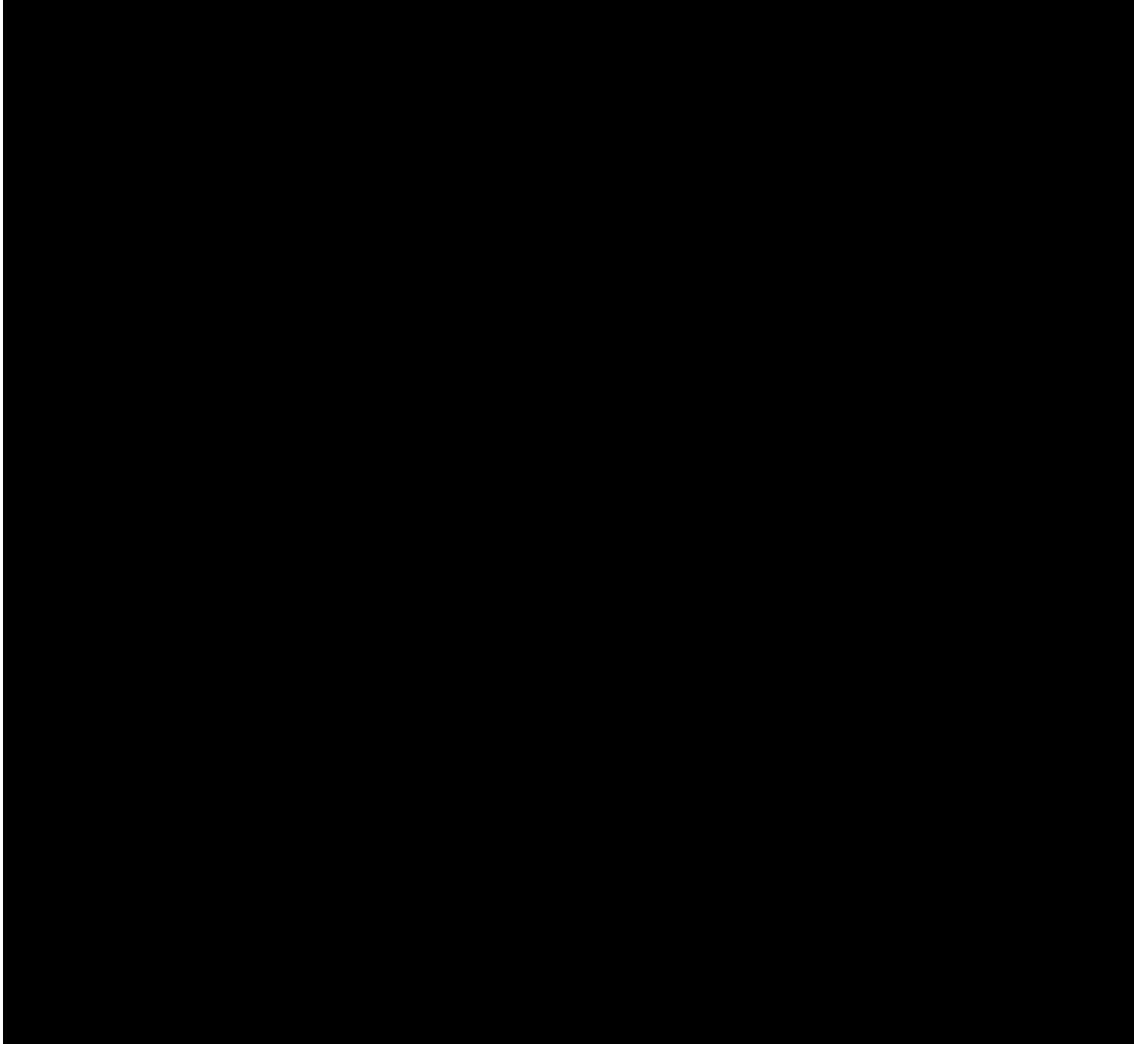
4 **A38.** In order to ensure impartiality in the evaluation and selection process, Sargent & Lundy
5 performed all administration and response accumulation for all stages (Phase I and Phase
6 II) before contract negotiations.

7 **Q39. Explain the process that AES Indiana followed to select the contractor for Pike
8 County Energy Storage project.**

9 **A39.** The EPC RFP was issued in February 2023, and responses were submitted in March 2023.
10 Two proposals were received. AES Indiana performed due diligence and ultimately
11 conducted contract negotiations with both respondents. After due diligence on all material
12 conditions – technical solution, experience, construction schedule and milestone payment
13 negotiation, contract requirements – among others, AES Indiana requested a best and final
14 offer from both bidders. The final offers were submitted by both bidders on June 6, 2023.
15 During this process, AES Indiana conducted contract negotiations with both bidders to
16 arrive at a stage where the contract with either bidder would not have material changes
17 before execution. After both best and final offers were received, scoring was updated for
18 both proposals by AES Indiana and Sargent & Lundy. As seen in Table 1 below, the best
19 and final offer AES Indiana received from Fluence LLC scored higher in each category
20 than the best and final offer submitted by [REDACTED]. This Company scoring is consistent
21 with the updated Sargent & Lundy scoring. See AES Indiana witness Daou's Attachment
22 PSD-1(C), at Section 3.3. After this process, AES Indiana finalized negotiation and
23 executed an agreement with Fluence Energy LLC.

1

Table 1: AES Indiana EPC RFP Best and Final Offer Proposal Evaluation



2 **Q40. Please briefly describe Fluence and their experience in the energy storage industry.**

3 **A40.** Fluence Energy LLC has more than 14 years of experience in the energy storage business.
4 Currently Fluence has installed capacity over 6.6 GW of energy storage solutions,
5 distributed in more than 225 projects in 47 markets. Regarding relevant experience for
6 executing a similar project to Pike County Energy Storage (over 100 MW/4Hr), Fluence
7 has supported experience for more than six projects in operation (952 MW total), four
8 projects currently in construction (474 MW total) and three projects in development stage
9 (500 MW). Fluence is a technology integrator with experience not only developing new

1 solutions but also providing operational and maintenance services for battery components
2 with proven experience in different markets.

3 The AES Corporation, AES Indiana’s parent company, owns a minority economic share of
4 Fluence (33.6%).⁴ As described above and addressed in Company witness Daou’s
5 testimony, the EPC bids were evaluated on a blind basis, meaning that AES Indiana was
6 not aware of the bidder identity during the initial bid evaluation. The competitive
7 solicitation demonstrates the EPC contract price and terms reflect the market. This
8 agreement was submitted to the Commission on June 29, 2023 per the affiliate transaction
9 General Administrative Order. The EPC Contract is included with my testimony as AES
10 Indiana Confidential Attachment GAC-1.

11 **Q41. Please discuss Fluence’s creditworthiness.**

12 **A41.** Fluence Energy LLC’s financial ability to complete construction of the Project was
13 assessed resulting in no material risk for completing the Project. [REDACTED]

14 [REDACTED]
15 [REDACTED]
16 [REDACTED]
17 [REDACTED]

18 **Q42. Did AES Indiana assess Pike Project’s ability to reach commercial operation?**

⁴ <https://ir.fluenceenergy.com/static-files/b394e04f-78be-44e7-9aaa-3b8acd428e7d>

⁵ AES Indiana Confidential Attachment GAC-1, EPC at Section 15.1.

⁶ AES Indiana Confidential Attachment GAC-1, EPC at Section 21.21.

1 **A42.** Yes. As this Project is being self-developed by AES Indiana, site control has been
2 guaranteed which facilitates most of the development tasks. No major environmental red
3 flags have been identified at this moment on site and more detailed site studies are
4 underway for better assessment of site conditions. With available information, permit
5 applicability assessment indicates that all permitting should be concluded before [REDACTED]
6 [REDACTED] and site mobilization can be initiated. For that reason, permitting activities are not
7 envisioned to be on the critical path for the Project. The Project construction will be
8 conducted by Fluence who was selected on a Request for Proposal process for engineering,
9 procurement and construction services and shows a demonstrable record of compliance
10 with previous projects. Given the current restrictions on the market, supply chain has been
11 identified as the critical path for the Project, particularly in regard to batteries and high
12 voltage (“HV”) components (transformers, HV breakers, enclosures). [REDACTED]
13 [REDACTED]
14 [REDACTED]. These provisions as well as the contractor’s substantial experience with battery
15 projects (described in Q/A 32) mitigate the risk that the Project might not achieve
16 commercial operation as planned. The EPC (discussed below) provides AES Indiana
17 oversight to mitigate the risk that the Project will not reach commercial operation on time.
18 The Project will not use water in any significant quantities, and thus will have negligible
19 or no impact on local water supplies. The Project avoids impact on groundwater, streams,
20 and wetlands. The Project does not require zoning permits; however, as provided in the
21 EPC, Contractor will comply with the recently approved Department of Homeland Security

1 requirements for installing battery energy storage systems included in House Enrolled Act
2 1173.⁷

3 **8. PIKE PROJECT DEVELOPMENT**

4 **Q43. What is the current status of the Pike Project's development?**

5 **A43.** As indicated, the Pike ProjectCo will execute a lease agreement with AES Indiana that
6 provides ProjectCo complete site control. In terms of permitting, the Project has conducted
7 preliminary delineation studies and is currently conducting geotechnical reports to assess
8 site conditions and mitigate the potential for unforeseen circumstances. HDR provided a
9 30% design package for the Project that was included as technical reference package for
10 the Request of Proposals for Engineering, Procurement and Construction services that was
11 conducted in February and March 2022. In addition, services for engineering of the HV
12 substation were contracted in advance, with the intention to provide the EPC Contractor
13 with a 60% engineering package for this portion of the work and accelerate the purchase
14 order placing for HV components. An EPC with Fluence has been signed and a copy is
15 included with my testimony as AES Indiana Confidential Attachment GAC-1. The EPC
16 provides a Limited Notice to Proceed for procurement of long lead items and required
17 engineering tasks. The EPC also provides that contractor will develop the information
18 required to file the remaining significant permits (Construction Permit from the County
19 and the recently approved authorization from Homeland and Security Department under
20 House Enrolled Act 1173).

21 **Q44. What is the status of Pike Project interconnection to MISO?**

⁷ AES Indiana Confidential Attachment GAC-1, EPC at Exhibit D1.

1 **A44.** The Pike Project qualifies for interconnection under the provisions of Section 3.7 of
2 Attachment X to the MISO tariff. The Project is eligible to involve a tax equity investor,
3 under the provisions detailed in Attachment X section 3.7.1(vi)(a)(1). The Project has been
4 submitted to MISO as a replacement request in accordance with the rules in the section
5 detailed in Section 3.7 of Attachment X. Notably, it will interconnect at the existing AES
6 Indiana Petersburg Generating Station 345 kV switchyard via a tie-line on the AES Indiana
7 Petersburg Generating Station property from the Project collector substation, which
8 satisfies the requirement in subsection (i) of 3.7.1 regarding the point of electrical
9 interconnection. There is no expectation of delay to the Project commercial operation date
10 based on interconnection.

11 **Q45. Has AES Indiana entered into agreements to develop the Pike Project?**

12 **A45.** Pike ProjectCo has entered into the EPC with Fluence for all civil, mechanical, electrical
13 and commissioning work related to the construction of the BESS facility, as well as the
14 HV Collector substation required for this Project. The EPC requires [REDACTED]
15 [REDACTED]
16 [REDACTED] after Project approval. Site Mobilization is
17 expected to commence in October 2023. The Pike ProjectCo will also enter into a Grid
18 Interconnection Agreement with MISO and AES Indiana as Interconnection Owner, to
19 build a 0.6-mile 345 kV interconnection line to the POI located in the Petersburg plant.

20 **Q46. Please briefly summarize the terms of the EPC.**

21 **A46.** Under the EPC, Contractor will manage all engineering, procurement, and construction
22 activities for the Pike Project subject to a pre-agreed scope of work and minimum
23 specifications. AES Indiana will remain responsible for critical HV long lead time

1 equipment. Contractor will put in place the necessary equipment supply and construction
2 contracts to conform with these specifications and, in certain instances, pre-agreed forms
3 of agreement. AES Indiana will pay for construction spend against progress milestones
4 under the EPC. Contractor will pay liquidated damages for [REDACTED]
5 [REDACTED]. EPC contract allows
6 partial commissioning by block to manage schedule risk.⁸

7 **Q47. Are any FERC filings and approvals required for the Pike Project?**

8 **A47.** Yes. As the Project nears completion, the ProjectCo will, 1) make a request to FERC under
9 Section 205 of the Federal Power Act⁹ for authorization required to sell energy stored and
10 discharged by the Pike Project facility into the wholesale market, and 2) seek authorization
11 to sell capacity and ancillary services to AES Indiana, an affiliate.

12 **Q48. What will happen to the Pike Project once it is developed?**

13 **A48.** Once the Project nears commercial operation, AES Indiana DevCo Holding 3 will sell the
14 ProjectCo to a Joint Venture between an AES Indiana subsidiary and one or more tax equity
15 partners (“TEP”).

16 **9. JOINT VENTURE**

17 **Q49. Please describe the Joint Venture.**

18 **A49.** The Joint Venture structure includes a limited liability company (the “Joint Venture, LLC”)
19 operating as a partnership that owns ProjectCo which, in turn owns the BESS assets. The
20 Joint Venture, LLC will be jointly owned by the AES Indiana Sponsor member and by the

⁸ AES Indiana Confidential Attachment GAC-1, EPC at Section 5.1.

⁹ 16 U.S.C. § 824d.

1 TEP member. This transaction is detailed by AES Indiana witness Salatto. His testimony
2 also includes an illustration of the transaction structure. See AES Indiana Attachment FJS-
3 1.

4 **10. CAPACITY AGREEMENT AND CONTRACT FOR DIFFERENCES**

5 **Q50. What is a CfD?**

6 **A50.** A CfD is a financial instrument entered into by two parties wherein the buyer agrees to
7 settle with the seller the difference between the current value of an asset and its value at
8 the time of the contract. At settlement, if the market price is higher than the contract for
9 differences fixed price, the seller pays the difference to the buyer; if the market price is
10 lower than the contract for differences fixed price, the buyer pays the difference to the
11 seller. In energy markets, a contract for differences provides one party a fixed price for
12 electric energy when a party is not physically transacting in the underlying commodity (i.e.,
13 electric energy).

14 Because the Pike Project is a stand-alone BESS resource that does not include solar or wind
15 generation, the context for the CfD is different than described in Cause No. 45591 for the
16 Petersburg Energy Center project. In this instance, the principal value for the resource is
17 providing dispatchable capacity to meet our customers' needs, and it also provides some
18 energy arbitrage value, i.e., charging the BESS with relatively lower priced market energy
19 and discharging the BESS at times when the energy has a higher value in the market due
20 to system demand. The CfD includes a monthly Capacity Payment based on the storage
21 capacity of the BESS, as adjusted for Storage Capacity Availability.

22 **Q51. Please describe the terms of AES Indiana's proposed Capacity Agreement and CfD.**

1 **A51.** The CfD is a contract between AES Indiana and the ProjectCo. The CfD is effectively a
2 fixed-price capacity resource hedge equivalent to that provided by existing AES Indiana-
3 owned generation. The CfD establishes a fixed price for the facility capacity. The CfD
4 provides a charging and discharging energy settlement mechanism for ProjectCo to ensure
5 that ProjectCo is made whole. ProjectCo is the market participant and sells all the energy
6 from the facility into the MISO market. The CfD is settled between AES Indiana and the
7 ProjectCo to provide the ProjectCo predictable cash revenue and the certainty of a fixed
8 price capacity for AES Indiana customers.

9 As I highlighted above, the CfD provides an availability-adjusted financial instrument to
10 make sure that the ProjectCo is compensated for the fixed cost value of the capacity over
11 the life of the CfD. Regarding charging and discharging energy, the CfD ensures that the
12 ProjectCo is made financially whole for the management of these actions and for the net
13 of the charging energy purchases and the discharge energy sales. Underlying the BESS
14 capacity resource function is energy arbitrage. Energy arbitrage is simply purchasing
15 electricity during off-peak periods when demand is lower, storing that electricity with the
16 BESS, and discharging it during peak periods when more electricity supply is needed.
17 Market electricity prices generally reflect variations in electricity demand, availability of
18 generation sources, fuel costs, and power plant availability. In off-peak periods, demand
19 is lower, supply is provided by lower cost units, and the price for electricity is lower. As
20 demand increases, incrementally higher cost resources are brought on or ramped to supply
21 the needed capacity resulting in a higher market prices. When effectively executed, one
22 expects that on average the charging cost, including extra charging energy that is purchased
23 due to the roundtrip efficiency of the BESS, will be lower than the price that the resource

1 is paid when it discharges the energy to the market. The CfD ensures that on a monthly
2 basis this is achieved for the ProjectCo. If, due to extraordinary market events, the monthly
3 net of MISO purchased energy cost and MISO sales revenue does not result in a net positive
4 value for the ProjectCo, AES Indiana pays ProjectCo the difference.

5 The CfD also directly assigns the MISO LRZ 6 accredited capacity to AES Indiana created
6 by the Pike Project. AES Indiana is credited the net of Ancillary Services associated with
7 the facility and any other benefits the ProjectCo receives under the MISO interconnection
8 agreement.

9 AES Indiana's analysis contemplates the term of the CfD will be approximately [REDACTED] years.

10 The Company expects to negotiate and complete the CfD once the TEP is known. As
11 stated below, the Company will file the executed CfD in this docket as a compliance filing
12 subject to the protection of confidential information.

13 **Q52. Why is a CfD being used for this transaction?**

14 **A52.** As just discussed, the CfD is a "financial" rather than a "physical" contract. AES Indiana
15 and TEP as partners in the Joint Venture, LLC, are able to avoid the potential negative tax
16 implications that would exist if a Purchase Power Agreement were used, and this in turn
17 allows AES Indiana to utilize the tax benefits of the Pike Project for the benefit of AES
18 Indiana's customers.

19 **Q53. What is the estimated pricing for the CfD for Pike Project?**

20 **A53.** The pricing for the first full year under the CfD for Pike Project, 2025, is estimated to be
21 [REDACTED] per kW-month for the capacity [REDACTED]
22 [REDACTED] resulting in a storage capacity payment estimated to be approximately

1 [REDACTED] per month, [REDACTED]
2 [REDACTED] As described in Q/A 52, the price is the result of a computation designed to
3 achieve a targeted return on investment of the acquired Project based on each party's
4 underlying investment profile and characteristics. The final CfD price is subject to
5 negotiation with the tax equity investor.

6 **Q54. How was the pricing for the CfD determined?**

7 **A54.** The price of the CfD is determined by calculating, on a capacity (\$/kW-month) payment
8 basis, an amount that enables both the TEP and the AES Indiana Sponsor of the Joint
9 Venture, LLC to achieve a targeted return on investment of the acquired Project based on
10 each party's underlying investment profile and characteristics.¹⁰ TEP's membership
11 interests in the Joint Venture, LLC will enable the TEP to receive a specific percent of the
12 ITCs and tax losses generated by the Project along with distributions of up to a specific
13 percent of any excess cash generated by the Project. Once TEP has attained an internal
14 rate of return ("IRR") as specified in the Joint Venture, LLC Limited Liability Company
15 Operating Agreement ("Joint Venture LLCA"), the allocation of taxable income, loss, gain,
16 and deductions changes as between AES Indiana Sponsor and TEP and the allocation of
17 such taxable income, loss, gain, and deductions to the TEP drops. At this point, AES
18 Indiana Sponsor member of the Joint Venture, LLC will have the option to acquire the TEP
19 interest for fair market value as defined in the Joint Venture LLCA. If AES Indiana
20 Sponsor acquires the TEP interest, AES Indiana can consolidate the Project and eliminate
21 the need for the CfD.

¹⁰ As proposed, distributions to AES Indiana from the ProjectCo will be credited to customers through the FAC.

1 **Q55. Is this pricing reasonable?**

2 **A55.** The CfD price is considered to be market-based at a level in which the transaction will
3 attract TEP investment. Attracting the TEP investment is a key component of all renewable
4 and storage projects, whether the project is a build transfer or a PPA.

5 **Q56. Why did AES Indiana choose not to execute the CfD at this point?**

6 **A56.** We view it as too early to execute a CfD for this project. Waiting to execute an agreement
7 provides flexibility should facts or circumstances arise that could enable us to better
8 optimize the CfD for our customers. While none are anticipated at this time, we are
9 primarily thinking of changes in tax laws that could occur between now and when the
10 Project comes on-line.¹¹

11 **Q57. What is the cash flow for the settlements and earnings distributions under the CfD?**

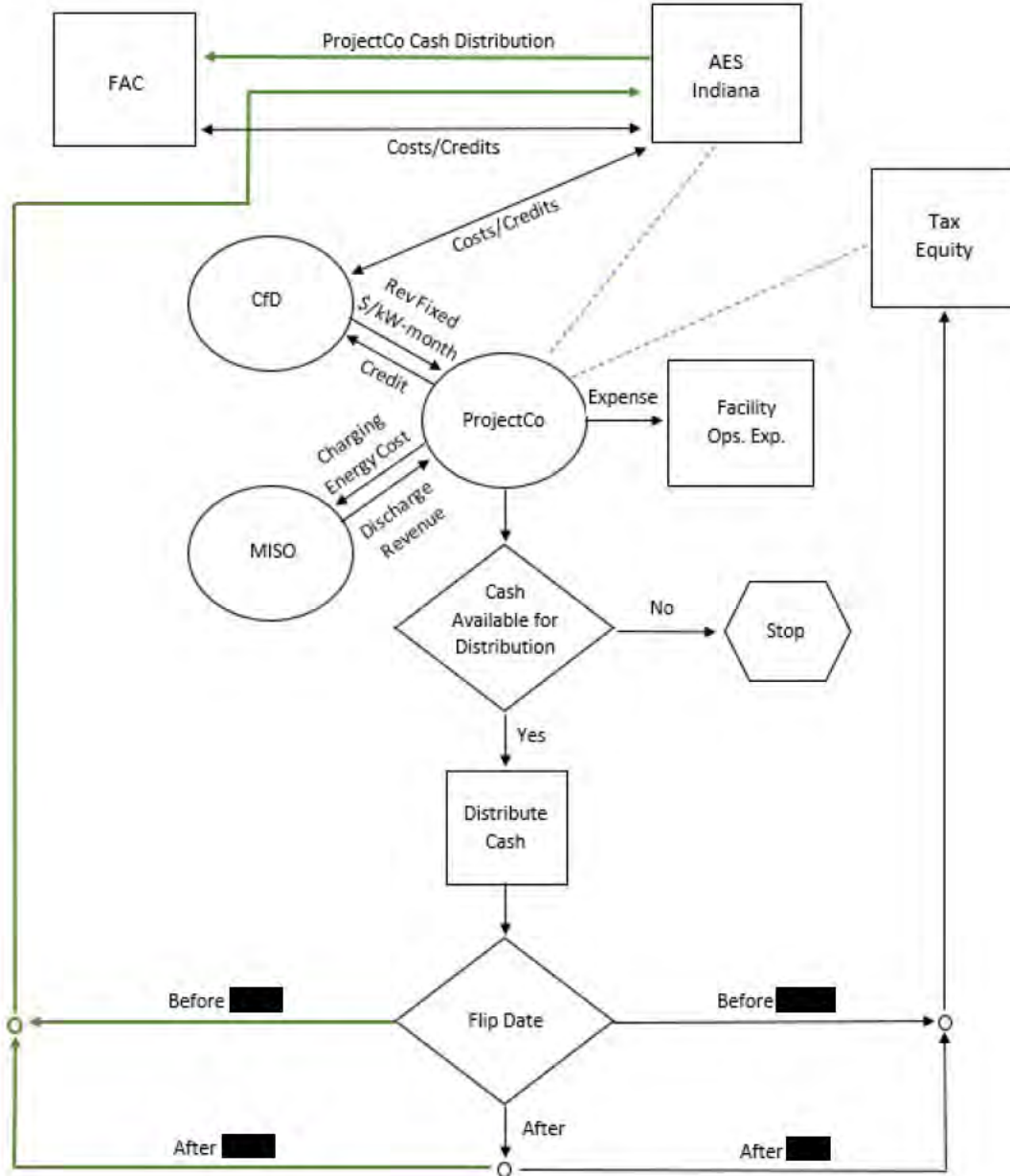
12 **A57.** AES Indiana does not take delivery of the energy from the ProjectCo under the CfD.
13 Instead, AES Indiana financially settles each month under the terms of the CfD. AES
14 Indiana proposes that amounts paid by AES Indiana to the ProjectCo for energy settlement
15 or paid by the ProjectCo to AES Indiana will be charged or credited respectively to the
16 Fuel Adjustment Clause (“FAC”) for timely recovery or crediting to AES Indiana
17 customers. Similarly, ProjectCo cash distributions will be timely credited to AES Indiana
18 customers through the FAC. This is consistent with the treatment approved for the Hardy
19 Hills Project in Cause No. 45493 and the Petersburg Energy Center Project in Cause No.
20 45591. Figure 1 below shows how, at a high level, these charges and credits flow to AES
21 Indiana customers.

¹¹ See also AES Indiana Witness Salatto Direct Testimony at Q/A 33.

1

Figure 1: Illustrative Pike Project Revenues and Distributable Cash Flows¹²

**Illustrative Pike County Energy Storage
Project Revenues and Distributable Cash**



2

¹² Does not reflect intermediate holding companies. Does not reflect any tax attributes allocation between AES Indiana and TEP.

1 **Q58. Please discuss how ProjectCo will operate.**

2 **A58.** The AES Indiana Sponsor of the Joint Venture will be responsible for operations and
3 operating decisions. Operations will be funded by revenue from a CfD between the
4 ProjectCo and AES Indiana. It is anticipated that O&M will be performed by AES Indiana.
5 This approach will leverage AES Indiana's existing facility and resources efficiently for
6 the benefit of this Project and our customers.

7 **Q59. Please explain why the Joint Venture documents cannot be executed now.**

8 **A59.** 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 the Equity Capital Contribution Agreement and
13 Membership Interest Purchase Agreement between AES Indiana DevCo and Joint Venture,
14 LLC transferring the ProjectCo ("TEP MIPA") being negotiated and executed, parties will
15 agree on major items through term sheet negotiations. The term sheet that AES Indiana is
16 proposing to use, is attached to witness Salatto's testimony as AES Indiana Confidential
17 Attachment FJS-2. Once the term sheet is agreed, documentation of the Joint Venture
18 LLCA will proceed.

19 The ITC tax benefits flow to the TEP in the year the project comes on-line. For the Pike
20 Project this is 2024. TEPs are typically unable to provide commitments this far in advance
21 for a 2024 project such as the Pike Project as they do not yet know what their respective
22 tax positions will be for 2024 and how much tax-equity appetite they will have. Most
23 TEP's will be looking at providing commitments for 2024 projects toward the end of 2023

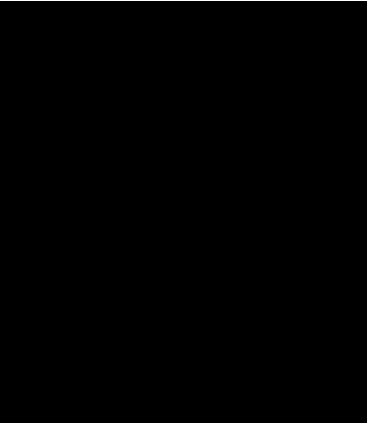
1 and the first half of 2024. Once executed, AES Indiana will file the CfD, Joint Venture
 2 LLCA, and TEP MIPA, as described by AES Indiana witness Salatto, as a compliance
 3 filing in this docket subject to the protection of confidential information.

4 **11. BEST ESTIMATE OF PIKE PROJECT**

5 **Q60. What is the Company’s Best Estimate for the cost of the Pike Project?**

6 **A60.** The Best Estimate for the Pike Project cost is identified by component in Table 2.

7 **Table 2: Pike Project Best Estimate¹³**

EPC Price (per EPC)	
HV Substation Engineering and procurement	
Interconnection cost	
Construction Management	
Engineering and permitting	
Construction Insurance costs	
Independent engineering	
Contingency	
Pre-COD Property tax	
Tax equity contribution	
Total	

8
 9 **Q61. How was the cost estimate developed?**

10 **A61.** The cost estimate for the Pike Project was determined through the competitive RFP and
 11 subsequent negotiations with the EPC Contractor. The Best Estimate for the Pike Project
 12 EPC price is taken directly from the EPC.¹⁴ The cost of HV substation engineering and
 13 procurement is taken directly from the proposal from the company engaged for executing

¹³ Best estimate excludes carrying charges. See AES Indiana witness Rogers’s Direct Testimony.

¹⁴ See AES Indiana Confidential Attachment GAC-1, EPC at Article 7.

1 this work (Dashiell Engineering LLC).¹⁵ I included a copy of this contract as AES Indiana
2 Confidential Attachment GAC-2. The interconnection cost reflected in the Best Estimate
3 is from AES Indiana Transmission Planning Engineering. Construction Management has
4 been calculated as the cost for Project oversight by AES Indiana based on internal labor
5 costs, including allocation of the Renewables Energy Project Manager and Renewables
6 Project Control Specialist, at least one safety specialist, and two Quality Assurance/Quality
7 Control Specialists with permanent assignment to the Project site. Insurance costs are
8 calculated based on industry estimates for Construction All Risk Insurance during the full
9 construction time. Engineering and permitting costs are estimates from consultants that
10 have been engaged for this process (HDR Engineering, Atlas, and GAI Consultants) and
11 include all the work for AES Indiana to develop 30% design engineering packages for RFP
12 process, MISO application process and required material modifications, delineation reports
13 and follow up with Indiana Department of Environmental Management (“IDEM”) and US
14 Corp of Engineers, Environmental Site Assessment (“ESA”) Phase II and Stormwater
15 Pollution Prevention Plan (“SWPPP”) plan preparation and execution for pre-notice to
16 proceed works. Engineering costs also includes engineering support for drawings review.
17 Independent Engineering costs are based on references from similar projects and include
18 Project oversight and sign off on milestones achievements and mechanical and substantial
19 completion stages. The pre-COD property taxes were estimated based on the current
20 applicable state property tax basis and rate. AES Indiana witness Salatto explains the basis
21 for the estimated TEP contribution.

¹⁵ See “HV Substation Engineering and Procurement Cost” in AES Indiana Confidential Attachment GAC-2, Engineering and Long Lead Items HV Substation at Exhibit B.

1 As noted above, the Pike Project will be located at AES Indiana’s Petersburg Generating
2 Station. Land lease costs have not been included as part of the Total Project Cost Best
3 Estimate because Pike ProjectCo will enter into a Lease Agreement with AES Indiana as
4 landlord on a market price basis. Therefore, land lease costs are considered as a revenue
5 for AES Indiana and as a cost for the Pike ProjectCo. Consequently, these costs have no
6 net impact on the Ranking Analysis.

7 **Q62. Please describe the contingency component of the Best Estimate of the Project Cost.**

8 **A62.** Contingency is used to plan for unanticipated costs largely beyond the Company’s control
9 that might arise during the development and construction of the Project. The Best Estimate
10 includes a contingency of [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]
23 [REDACTED]

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[REDACTED]

Given recent industry challenges, it is reasonable to include contingency in the Best Estimate. Doing so better positions the Best Estimates to address challenges that may arise during Project implementation. It also provides additional information to the Company, the Commission and stakeholders in the assessment of this resource.

Q63. Is it possible that AES Indiana will make additional investment in the Pike Project beyond the Best Estimate of the investment discussed above?

A63. It is possible. AES Indiana does not anticipate a need for additional investment beyond the Best Estimate of the investment discussed above. However, situations such as force majeure, excused events or AES Indiana-initiated change orders, could result in a need for additional investment. The costs of any such additional investment in excess of the contingency included in the Best Estimate would be presented by AES Indiana to the Commission for review and approval prior to recovery through rates.

Q64. In your opinion, is the estimated cost of the Pike Project reasonable?

A64. Yes. The Pike Project cost compares favorably to the proposals received in the 2022 All Source RFP. The Pike Project Best Estimate is the result of the competitive RFP process for the EPC and direct negotiation. The EPC RFP process was conducted between February 14-22, 2023 and March 13-22, 2023 followed by direct negotiation. Respondents to the RFP were motivated to reply with competitive bids in order to be considered for review and negotiation of an agreement. It was commercially practicable to secure the

1 estimated costs of the Projects in this manner, and given that quotes received are recent,
2 they reflect current market conditions. This process ensures that the actual costs incurred
3 are reasonably based on timely, competitive procurement. Additionally, the RFP processes
4 confirm the reasonableness and reliability of the cost estimates that form the basis for the
5 Best Estimate. In sum, the estimated cost of the Pike Project is reasonable and reliable
6 because it is the product of the competitive bidding process and a negotiated and executed
7 EPC. In addition, other significant costs, as the one related to equipment procurement, have
8 been supported by direct quotes from the suppliers.

9 **Q65. What contractual protections are included in the EPC to limit the possibility of**
10 **project cost increases?**

11 **A65.** The EPC has a number of protections that directly address the possibility of Project cost
12 increases. Additionally, the EPC also includes protections in the form of liquidated
13 damages that address costs related to [REDACTED]

14 [REDACTED]
15 [REDACTED]
16 [REDACTED]
17 [REDACTED]
18 [REDACTED]
19 [REDACTED]
20 [REDACTED]
21 [REDACTED]
22 [REDACTED]

1 [REDACTED]

2 [REDACTED]

3 [REDACTED]

4 [REDACTED]

5 [REDACTED]

6 [REDACTED]

7 [REDACTED] The EPC includes “commissioning by block” language that allows

8 flexibility to mitigate delays and adds flexibility to the commissioning process therefore

9 limiting cost increases due to extended schedule.

10 [REDACTED]

11 [REDACTED]

12 [REDACTED]

13 [REDACTED]

14 [REDACTED]

15 [REDACTED]

16 [REDACTED]

17 [REDACTED]

¹⁶ AES Indiana Confidential Attachment GAC-1, EPC at Section 5.5(e).

¹⁷ AES Indiana Confidential Attachment GAC-1, EPC at Section 5.11.

¹⁸ AES Indiana Confidential Attachment GAC-1, EPC at Section 5.3(c).

¹⁹ *Id.*

²⁰ *Id.*

²¹ *Id.*

1 [REDACTED]
2 [REDACTED]
3 [REDACTED]
4 [REDACTED]
5 [REDACTED]
6 [REDACTED]
7 [REDACTED]
8 [REDACTED]

9 While the Company has taken steps to safeguard project costs, the Company does not have
10 control over all factors that impact costs, such as project cost increases due to force
11 majeure, including unforeseeable conditions at the site, and changes in law, including
12 changes in tax law.

13 **Q66. What guarantees exist for the development of the Pike Project facilities to assure that**
14 **the Project’s major facilities’ operations will align with reasonable expectations of the**
15 **performance, and the major equipment suppliers will honor all warranties,**
16 **guarantees, and commitments to the Project?**

17 **A66.** [REDACTED]
18 [REDACTED]
19 [REDACTED]

²² *Id.*
²³ *Id.*
²⁴ AES Indiana Confidential Attachment GAC-1, EPC at Section 5.9.
²⁵ AES Indiana Confidential Attachment GAC-1, EPC at Section 5.10.

1 [REDACTED]
2 [REDACTED]
3 [REDACTED]
4 [REDACTED]
5 [REDACTED]

6 **12. PROJECT TIMELINE AND MANAGEMENT**

7 **Q67. Is a timely decision important?**

8 **A67.** Yes. AES Indiana asks the Commission to issue a decision no later than 120 days after the
9 date of the filing of the Petition. As stated in the Petition, the OUCC agreed to a 120-day
10 procedural schedule for this docket. A timely decision is reasonable and necessary to allow
11 the Pike Project to be built and commercially operable to allow the new resource to be
12 interconnected to MISO and identified as a capacity resource by the 2024-2025 MISO
13 Winter Planning Season. In order to achieve this goal, full Mechanical Completion is
14 expected in [REDACTED] in order to commission the facility and undertake testing for the
15 MISO planning year. Substantial Completion is scheduled to be achieved in December
16 2024. [REDACTED]

17 [REDACTED]
18 [REDACTED] This price was offered during the lowest period of the Lithium
19 Carbonate commodity curve (main driver from battery suppliers for quote battery projects)
20 and provides a competitive price for this equipment. This risk of procuring the equipment
21 prior to obtaining Commission approval can be mitigated by re-selling the equipment if the

²⁶ AES Indiana Confidential Attachment GAC-1, EPC at Article 10.

1 Project is not approved. However, Commission approval within 120 days will mitigate the
2 risk to AES Indiana for [REDACTED]

3 [REDACTED].

4 **Q68. How will AES Indiana manage the development and construction of the Pike Project?**

5 **A68.** As discussed above, the EPC establishes well-defined expectations of performance by the
6 EPC contractor; however, in this case, AES Indiana will utilize a full construction
7 management team dedicated to provide site supervision, and guarantee that safety and
8 technical specifications are in compliance. The budget assumes that one safety specialist
9 and two Quality Assurance/Quality Control engineers who will support the commissioning
10 process. This team will report to a Renewables Project Manager who will jointly, with a
11 Project Control specialist, provide oversight, contract management, and general project
12 assistance on a shared time basis with other ongoing renewable projects. The Project
13 Manager will report to the Chief Operating Officer for Generation and will provide updates
14 and progress reports to the AES Indiana Construction Oversight Council. This will allow
15 AES Indiana to monitor the project progress, schedule, and risk management, and oversee
16 contractor compliance with the EPC.

17 **Q69. How do AES Indiana customers benefit from an expedited procedural schedule?**

18 **A69.** The Project bidding process (including respondents' clarifications) took place between
19 March and May this year, which corresponds with the lowest period of the Lithium
20 Carbonate Curve, compared to the last two years. Also, after June 2023 the values of this
21 commodity have stabilized at prices that are at least 40% higher than the prices used as a
22 reference for the bid. Based on the contractual terms offered by Fluence, the price has been
23 locked-in and the supplier is not entitled to future changes in the price, as long as the project

1 milestone payments are made. An expedited procedural schedule will decrease the contract
2 exposure for additional payments prior to Commission approval.

3 The project execution timeline is rigorous for a project of this size. The standard
4 construction time to reach mechanical completion and start testing is at least 12 months,
5 which requires that the project begins site work by November 2023 in order to reach
6 commercial operation by December 2024. Any delay to start of construction later than
7 November would likely prevent commercial operation as expected – these initial activities
8 are critical path. AES Indiana and its customers will not receive 2024-25 winter capacity
9 if the project is delayed and will be short the corresponding 200 MW. Also, AES Indiana
10 customers and the state of Indiana will benefit from the addition of a 200 MW dispatchable
11 resource in the 2024-25 winter months, which bolsters reliability during those winter
12 months.

13 **13. PUBLIC CONVENIENCE AND NECESSITY**

14 **Q70. In your opinion does or will the public convenience and necessity require the**
15 **construction of the proposed Project?**

16 **A70.** Yes. The Pike Project is reasonable and necessary. AES Indiana has identified a need for
17 additional winter capacity. The Pike Project takes advantage of the existing MISO
18 interconnection, which benefits all our customers. The development of the Pike Project is
19 consistent with the 2022 IRP Short Term Action Plan and represents a reasonable least cost
20 option for AES Indiana to utilize in meeting its ongoing obligation to provide adequate and
21 reliable electric service and facilities. The location of the Project in Pike County Indiana
22 will benefit AES Indiana’s customers, the local community, and the State. Locating
23 facilities in Indiana grows business development in Indiana, provides income to

1 landowners, and local taxes to support local government projects. Therefore, the Pike
2 Project is reasonable and necessary and the public interest and convenience will be served
3 by the Project and associated relief being approved as proposed by AES Indiana. I discuss
4 the application of the CPCN Statute below.

5 **14. GAO 2022-01**

6 **Q71. Are you familiar with the Commission's GAO 2022-01?**

7 **A71.** Yes, this GAO provides guidance on certain RTO related information a utility should
8 submit in certain proceedings. While I have testified that the stand-alone BESS is not a
9 facility for the generation of electricity, the Company compiled the information sought in
10 the GAO in AES Indiana Confidential Attachment GAC-3.

11 **15. DECLINATION OF JURISDICTION UNDER CPCN STATUTE OR ISSUANCE** 12 **OF CPCN.**

13 **Q72. You indicated above that the stand-alone BESS is not a facility “for the” “generation**
14 **of electricity.**

15 **A72.** A stand-alone battery energy storage facility stores electricity. The electricity stored in the
16 batteries is produced by other facilities. Thus, the stand-alone BESS is not a facility “for
17 the” “generation of electricity”. The word “generation” is defined in the Merriam-Webster
18 dictionary to mean “*origination* by a generating process”.²⁷ A battery does not originate
19 electricity.

20 **Q73. Please explain.**

²⁷ <https://www.merriam-webster.com/dictionary/generation>.

1 **A73.** The proposed Pike Project will use lithium ion batteries. An electro-chemical battery, such
2 as lithium ion or lead Acid, stores electricity in chemical molecules. The electricity stored
3 in the batteries is produced by a separate facility and delivered into the storage facility.
4 More specifically, electrons (produced elsewhere) travel through wires to a battery
5 electrode and then bond with ions inside the battery to be stored through a reversible
6 electrochemical reaction. To discharge (i.e. release the stored electricity) the ions travel
7 through the battery to the other electrode and the electron travels out of the battery through
8 the wire back to the load to complete the circuit.

9 In contrast, a generator uses fuel energy that is in a different form than electricity to create
10 electricity. For example, a thermal generator creates electricity by converting energy from
11 fuel (combusting coal or natural gas fuel) to heat water producing pressurized steam to spin
12 a turbine-generator or uses the expansion of combustion gases through turbine blades
13 connected to a generator to produce electricity. Electrochemical batteries only receive
14 electricity as input. The battery is not a facility for the generation of electricity because
15 whatever electricity the battery stores and then releases was produced by a different
16 facility. Thus, the battery is an asset that stores electricity generated elsewhere for use at
17 a later point in time. A battery is not a facility for the generation of electricity.

18 **Q74. Please discuss why Commission declination to exercise CPCN jurisdiction over the**
19 **Pike Project is reasonable.**

20 **A74.** As explained above, a BESS is not a facility “for the” “generation of electricity”. If the
21 Commission is reluctant to reach this conclusion at this time, then the Commission could
22 decline to exercise the CPCN Statute for the Project. This approach would allow time for

1 the Commission to learn more about BESS technology and resolve any concerns the
2 Commission may have with respect to the application of the CPCN Statute.

3 The proposed Pike County BESS Project is subject to FERC jurisdiction and will
4 participate only in the competitive wholesale market via the joint venture structure I
5 described above, which is being created to benefit customers. The Pike County Project is
6 being reviewed by the Commission in this docket per the Clean Energy Project Statute.
7 The Project review includes largely the same type of review that would be conducted under
8 the CPCN Statute. Commission approval under the 120-day process provided in the Clean
9 Energy Project statute will facilitate the development of this Project within the timeframe
10 needed to meet the capacity deadline. These operating and regulatory conditions render
11 the Commission's exercise jurisdiction under the CPCN Statute unnecessary or wasteful.
12 A Commission decision to decline to exercise jurisdiction under the CPCN statute would
13 be efficient because it clarifies the applicable regulatory framework and facilitates the
14 timely development of the Project, which is beneficial for AES Indiana customers, the State
15 and AES Indiana. The Commission generally declines to exercise jurisdiction under the
16 CPCN Statute for other merchant resources. Declining to exercise CPCN jurisdiction over
17 the proposed Pike Project would be consistent with the Commission's treatment of other
18 resources. Exercising jurisdiction under the CPCN Statute would impose an additional
19 burden on the BESS resource and create an unlevel playing field that may inhibit
20 competition among wholesale resources.

21 **Q75. If the Commission finds the proposed stand-alone BESS Project is subject to the**
22 **CPCN Statute and the Commission chooses to exercise jurisdiction under the CPCN**
23 **statute, why should the CPCN be issued for the Pike Project?**

1 **A75.** A CPCN should be issued for the Pike Project because the Project is reasonable and
2 necessary and the public interest and convenience requires the Project. The Company's
3 filing in this docket demonstrates the CPCN statutory requirements are satisfied. In
4 particular, my testimony shows the Company has presented the Project Best Estimate,
5 which is the product of a competitive solicitation.

6 1. Company witness Miller, supplemented by my testimony, shows the proposed Pike
7 Project is consistent with the Company's 2022 IRP and the SUFG forecast.

8 2. My testimony explains the public convenience and necessity require the proposed
9 Project and the testimony offered by the other Company witnesses supports this
10 conclusion. Company witness Miller's testimony together with the testimony
11 offered by Company witness Daou, Powers and me regarding the All-Source RFP
12 shows the Company has reasonably considered the resource alternatives
13 enumerated in Ind. Code § 8-1-8.5-4.

14 **Q76. Did AES Indiana comply with Ind. Code § 8-1-8.5-5(e)?**

15 **A76.** Yes. The Commission should find that AES Indiana has satisfied this statutory requirement
16 or decline to exercise it. The capacity need addressed by the Pike Project was identified in
17 AES Indiana's 2022 IRP. As discussed above, AES Indiana's proposal to develop the Pike
18 Project grew out of the competitive EPC RFP that followed a competitive All-Source RFP.
19 Respondents to the RFP were motivated to submit competitive bids in order to be
20 considered for AES Indiana's investment and the negotiation of an agreement. It was
21 commercially practicable to secure the estimated costs of the Pike Project in this manner.
22 This process provides a credible basis for the Project Best Estimate and assures that the
23 actual costs that are incurred are, to the extent commercially practicable, based on

1 competitive procurement. If the Commission finds the CPCN Statute applies to the Pike
2 Project, the Commission should find that the requirements of Ind. Code § 8-1-8.5-5(e) have
3 been satisfied. In the alternative, the Commission should decline to exercise jurisdiction
4 under this section. The process used by the Company reasonably addresses the risk of cost
5 overruns and the statutory requirements have been reasonably satisfied. Therefore, it
6 would be unnecessary or wasteful to further exercise this statutory requirement.

7 **16. HEA 1007 and GAO 2023-04**

8 **Q77. Are you familiar with HEA 1007 (2023) codified as Ind. Code § 8-1-2-0.6?**

9 **A77.** Yes. In HEA 1007, effective July 1, 2023, the Indiana General Assembly declares that it is
10 the continuing policy of the state that decisions concerning Indiana's electric generation
11 resource mix, energy infrastructure, and electric service ratemaking constructs must
12 consider each of five attributes of electric utility service enumerated in the statute, namely:
13 Reliability, Affordability: Resiliency, Stability; and Environmental Sustainability. These
14 attributes or “Pillars” as they are referenced in the Commission’s GAO 2023-04 stems from
15 the “Five Pillars” of utility service recommended by the Indiana 21st Century Energy
16 Policy Development Task Force. AES Indiana understands the importance of each Pillar.

17 **Q78. Did the Company consider the Five Pillars in the development of the Pike Project?**

18 **A78.** Yes. The Company reasonably considered the Five Pillars in the development of the
19 Company’s IRP and in the development of the Pike Project presented in this docket.
20 Company witness Miller shows the proposed project reasonably considers and is consistent
21 with the Five Pillars.

1 I would add that the IRP identified a BESS at Petersburg. The Company’s proposal in this
2 case seeks to develop this resource to meet the identified need for capacity. Doing so
3 supports the ability of the system to reliably supply the demand and energy requirements
4 of our customers. In particular, the proposed Project is particularly important to the
5 Company’s ability of system to comply with its MISO winter capacity obligation. The
6 ability to use the remaining Petersburg Unit 2 MISO injection rights reduces the cost and
7 risk of interconnection. This in turn facilitates the Company’s ability to meet its capacity
8 need and in doing so safeguards system reliability and avoids the need to purchase capacity,
9 which can increase costs that are reflected in rates for service.

10 The IRP modeling process and the competitive bidding process are designed to identify the
11 reasonable least cost solution for our customers and are consistent with the affordability
12 Pillar. As discussed above, the Company has taken steps to safeguard costs in the
13 negotiation of the EPC. More specifically, the Company has [REDACTED]

14 [REDACTED]
15 [REDACTED] The EPC also includes “commissioning by block” language that allows
16 flexibility to mitigate delays and adds flexibility to the commissioning process therefore
17 limiting cost increases due to extended schedule. As discussed above, locating the Project
18 at Petersburg Generating Station allows the Company to maximize the ITC benefit as
19 Petersburg is in an Energy Community as defined in the IRA. As shown by the Best
20 Estimate presented above, the proposed joint venture structure reduces the cost of the
21 Project for our customers. As discussed by Company witness Rogers, the Company’s
22 accounting and ratemaking proposals are also reasonably designed to address affordability

1 of service. Resiliency and stability were considered in the IRP. The proposed BESS
2 Project supports both considerations based on its attributes as a dispatchable resource.

3 As discussed above, battery energy storage is a clean energy resources and falls within the
4 definition of “renewable energy resource” as defined in Ind. Code § 8-1-8.8-10. Battery
5 energy storage facilitates the use of solar and wind resources. The Company’s IRP
6 reasonably considered the impact of environmental regulations on the cost of providing
7 service. During the IRP public advisory process, stakeholders expressed a strong
8 preference for cleaner sources of energy. The development of the Pike Project is consistent
9 with that interest.

10 **Q79. Please describe Table 3 below.**

11 **A79.** Table 3 below provides the location in the Company’s filing of testimony specifically
12 addressed to the Five Pillars. The balance of the Company’s filing corroborates the
13 identified discussion. This index is provided in accordance with the Commission’s GAO
14 2023-04 to facilitate the Commission’s consideration of the Five Pillars.

1

Table 3: Five Pillars Index

Topic	Witness(es)
Five Pillars	Cooper – Section 16 Miller – IRP consideration of Five Pillars – Q/As 21, 43
Reliability	Miller – Q/As 21, 34, 43
Affordability	Cooper – Section 16 Miller – Q/As 21, 30, 32, 43 Rogers – Q/A 35
Resiliency	Miller – Q/As 21, 34, 43
Stability	Miller – Q/As 21, 34, 43
Environmental Sustainability	Cooper – Section 16 Miller – Q/A 13, 21, 34, 43

2

3

17. CONCLUSION

4

Q80. What is your conclusion and recommendation to the Commission?

5

A80. It is the Company’s reasonable judgment that the Pike Project is a reasonable, least cost choice to AES Indiana’s near-term capacity need. I recommend the Commission approve AES Indiana’s development of the Pike Project as a Clean Energy Project, approve the associated accounting and ratemaking relief sought by the Company in this proceeding, and to the extent necessary, decline jurisdiction under the CPCN statute or issue a CPCN so that the Company may proceed with the Project.

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Q81. Does that conclude your prepared verified direct testimony?

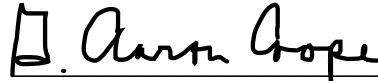
12

A81. Yes.

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 July 18, 2023.

A handwritten signature in black ink that reads "G. Aaron Cooper". The signature is written in a cursive style and is positioned above a horizontal line.

G. Aaron Cooper

AES Indiana Confidential Attachment GAC-1
Engineering, Procurement and Construction Agreement
(Confidential – Not Reproduced Herein)

AES Indiana Confidential Attachment GAC-2
High Voltage Substation Engineering and Procurement Contract
(Confidential – Not Reproduced Herein)

Pike County Project GAO 2022-01 Regional Transmission Organization Information

GAO 2022-1 Requirement	Response
<p>The name of the RTO to which the new generation will be connected and information regarding the RTO’s planning reserve margin, peaks, capacity auctions, possible ancillary services the new generation may provide, and other markets in which the new generation may participate. A qualitative assessment by the RTO regarding the new generation shall be requested and the RTO’s response (including, as applicable, the RTO’s affidavit or testimony) shall be part of the utility’s case in chief.</p>	<p>The Project will be connected to the MISO system. MISO's 2023/2024 seasonal reserve margins (see also AES Indiana witness Miller’s Direct Testimony at Figure 1) and peaks, respectively, are listed below.¹</p> <ul style="list-style-type: none"> • Summer: 7.4%, 119,924.1 MW • Fall: 14.9%, 105,907.1 MW • Winter: 25.5%, 98,691.2 MW • Spring: 24.5%, 96,844.0 MW <p>The Project may provide the following services:</p> <ul style="list-style-type: none"> • Regulating Reserve • Spinning Reserve • Supplemental Reserve • Short Term Reserve • Ramp Capability Product <p>While the Project is not a generation project, it may participate in the following markets:</p> <ul style="list-style-type: none"> • MISO Day Ahead Energy Market • MISO Real Time Energy Market • MISO Capacity Market <p>The Project will utilize Petersburg Unit 2's existing injection rights. Therefore, the Project did not require a qualitative assessment by MISO.</p>
<p>A description of the new generation’s anticipated impact on the submitting utility’s resource adequacy and reliability.</p>	<p>The Pike Project is expected to contribute to AES Indiana meeting its resource adequacy requirements and contribute to the overall reliability of AES Indiana's system. Please see AES Indiana witness Cooper's direct testimony at Section 16 for a description of how the Project will address the Five Pillars. Please see AES Indiana witness Miller's direct testimony at Q/A 15 for a description of how the Project will help meet AES Indiana's resource adequacy requirements.</p>
<p>An explanation regarding whether the new generation is required to be in the RTO’s interconnection queue and, if so, its status in the queue.</p>	<p>The Pike Project will utilize Petersburg Unit 2's existing injection rights. Therefore, the Project was not required to be in MISO's interconnection queue.</p>

¹ <https://cdn.misoenergy.org/20230117-18%20RASC%20Item%2007%20Preliminary%20PRA%20Data%20Presentation627555.pdf>.

GAO 2022-1 Requirement	Response
<p>A description of the new generation’s expected capacity factors, dispatchability, and accreditation characteristics.</p>	<p>The Pike Project is a 4-hour BESS; therefore, the expected capacity factor is 16.7%. The Pike Project is a dispatchable resource. The Pike Project is expected to have an accredited capacity of 190 MW in all four MISO capacity seasons (i.e., Summer, Winter, Fall, and Spring).</p>
<p>A description of how the new generation is expected to perform at the relevant RTO’s peak pursuant to its capacity construct (for example, summer and/or winter and/or other, as may be applicable).</p>	<p>Please see the direct testimonies of AES Indiana witnesses Cooper (Q/A 36) and Miller (Q/A 15) for a description of how the Pike Project will help fulfill the capacity need identified in AES Indiana’s 2022 IRP.</p>