

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

**VERIFIED PETITION OF INDIANA MICHIGAN)
POWER COMPANY (I&M) FOR APPROVAL OF)
(1) ISSUANCE TO I&M OF CERTIFICATES OF)
PUBLIC CONVENIENCE AND NECESSITY)
UNDER IND. CODE § 8-1-8.5-2 FOR THE)
ACQUISITION AND DEVELOPMENT THROUGH)
PURCHASE SALE AGREEMENTS (PSA) OF)
TWO SOLAR POWER GENERATING)
FACILITIES TO BE KNOWN AS LAKE TROUT,)
AND MAYAPPLE (CLEAN ENERGY PSA)
PROJECTS); (2) TO THE EXTENT NECESSARY,)
ISSUANCE OF AN ORDER PURSUANT TO IND.)
CODE § 8-1-2.5-5 DECLINING TO EXERCISE)
JURISDICTION UNDER. IND. CODE § 8-1-8.5-)
5(e) (3) APPROVAL OF EACH PSA PROJECT)
AS A CLEAN ENERGY PROJECT UNDER IND.)
CODE § 8-1-8.8-11; (4) APPROVAL OF TWO)
SOLAR RENEWABLE ENERGY PURCHASE)
AGREEMENTS FOR PROJECTS TO BE KNOWN)
AS ELKHART COUNTY AND SCULPIN (CLEAN)
ENERGY PPA PROJECTS) AS CLEAN ENERGY)
PROJECTS UNDER IND. CODE § 8-1-8.8-11; (5))
ASSOCIATED TIMELY COST RECOVERY)
UNDER IND. CODE § 8-1-8.8-11 FOR ALL PSA)
AND PPA PROJECTS; AND (6) OTHER)
ACCOUNTING AND RATEMAKING AUTHORITY.)**

CAUSE NO. 45868

**SUBMISSION OF DIRECT TESTIMONY OF
BETH E. LOZIER**

Applicant, Indiana Michigan Power Company (I&M), by counsel, respectfully submits the direct testimony and attachments of Beth E. Lozier in this Cause.

Respectfully submitted,



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The undersigned hereby certifies that a copy of the foregoing was served this 28th day of March, 2023, by email transmission, hand delivery or United States Mail, first class, postage prepaid to:

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INDIANA MICHIGAN POWER COMPANY

PRE-FILED VERIFIED DIRECT TESTIMONY

OF

BETH E. LOZIER

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**DIRECT TESTIMONY OF BETH E. LOZIER
ON BEHALF OF
INDIANA MICHIGAN POWER COMPANY**

I. Introduction of Witness

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

2 My name is Beth E. Lozier and my business address is 1 Riverside Plaza,
3 Columbus, Ohio 43215.

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

5 I am employed by American Electric Power Service Corporation (AEPSC), a
6 wholly owned subsidiary of American Electric Power Company, Inc. (AEP), as a
7 Project Director. AEP is the parent company of Indiana Michigan Power
8 Company. AEPSC supplies engineering, project management, financing,
9 accounting, and similar planning, and advisory services to AEP's regulated
10 electric operating companies.

11 **Q3. Briefly describe your educational background and professional
12 experience.**

13 I earned a Bachelor of Science Degree in Applied Management from Ohio
14 University in 2017 and have been a certified PMI Project Management
15 Professional since 2015. I began my career with AEP in October 2003. Since
16 that time I have held various positions with AEP. In 2011, I began working in
17 Project Management on environmental retrofit projects before transitioning into
18 renewable projects. In 2019, I assumed the role of Construction Technology
19 and Estimating Manager and in 2021, I moved back into the role of Manager of
20 Projects for Renewables. I assumed my current position as Project Director in
21 2022.

1 **Q4. Have you previously testified before any regulatory commissions?**

2 Yes, I provided written testimony on behalf of Public Service Company of
3 Oklahoma (PSO) before the Corporation Commission of the State of Oklahoma
4 in Case No. PUD 2022-000121.

5 **Q5. What are your responsibilities as a Project Director?**

6 My responsibilities include direct accountability for the successful completion of
7 a wide range of projects varying in size, technology, complexity, and capital
8 investment. I provide leadership to a team of project managers to ensure capital
9 projects that serve the needs of the AEP generation fleet are initiated, planned,
10 executed, monitored, controlled, and closed in a safe, efficient, and effective
11 manner.

II. Purpose of Testimony

12 **Q6. What is the purpose of your testimony?**

13 The purpose of my testimony is to:

- 14 1) provide an overview of the Lake Trout and Mayapple solar projects
15 (collectively, the Clean Energy PSA Projects);
- 16 2) describe the Company's role in project management and the oversight of
17 engineering, procurement, and construction of the Clean Energy PSA
18 Projects;
- 19 3) present milestones for construction activities and the estimated
20 commercial operation dates (COD);
- 21 4) support the owner's cost, overheads, and AFUDC components of the Best
22 Estimate of total project capital cost for the Clean Energy PSA Projects¹;

¹ The Best Estimate of total project capital cost for the Clean Energy PSA Projects are presented by Company witness Gaul.

- 1 5) describe the Company's operation and maintenance (O&M) plans
2 including the ongoing O&M cost estimates for the Clean Energy PSA
3 Projects; and
4 6) describe the reasonableness of the Clean Energy PSA Projects' design
5 life.

6 **Q7. Are you sponsoring any attachments?**

7 Yes, I am sponsoring the following attachments:

8 Attachment BEL-1 – Clean Energy PSA Projects Overview

9 Attachment BEL-2C – Solar Facility Location Map (Confidential)

10 Attachment BEL-3 – Clean Energy PSA Projects' Project Status

11 Attachment BEL-4 and 4C – Ongoing O&M Forecast (Confidential/Competitively
12 Sensitive) (Public and Confidential versions)

13 Attachment BEL-5C – Solar Decommissioning Costs Analysis Report
14 (Confidential)

15 **Q8. Are you sponsoring any workpapers?**

16 Yes, I am sponsoring:

17 WP BEL-1C - Clean Energy PSA Project Costs Calculations
18 (Confidential/Competitively Sensitive)

19 **Q9. Were these attachments and workpaper prepared or assembled by you or
20 under your direction and supervision?**

21 Yes.

III. Clean Energy PSA Projects Overview

1 **Q10. Please identify the Clean Energy PSA Projects.**

2 Figure BEL-1 below provides an overview of the Clean Energy PSA Projects,
3 which are described in more detail in Attachment BEL-1 and in the testimony of
4 Company witness Gaul.

Figure BEL 1² - Clean Energy PSA Projects Overview

	Solar	
	Lake Trout	Mayapple
Size (Nameplate Megawatt (MW))	245	224
Developer	EDF Renewables Development, Inc.	Lightsource bp
Planned COD	April 2026	May 2026
State	IN	IN

5
6 The Clean Energy PSA Projects will consist of two separate projects totaling 469
7 MW of installed capacity and will consist of photovoltaic modules with single axis
8 tracking systems that will be engineered to have a design life of 30 years, and
9 an expected useful life of 35 years as discussed below.

10 **Q11. What is the development and permitting status of each Clean Energy PSA**
11 **Project?**

12 The sequence of development activities associated with renewable power
13 generating facilities generally starts with land acquisition followed by
14 interconnection application, environmental studies, engineering and design,
15 procurement, and construction. As a requirement to the I&M 2022 All-Source
16 Request for Proposal (RFP), which is provided in Company witness Gaul's
17 Attachment TBG-1, projects must have already established substantial site
18 control, completed various steps associated with the interconnection process,
19 and have demonstrated a path toward achieving COD by the target dates set

² See Attachment BEL-2C for Solar Facility Location Map

1 out to meet the Company's capacity needs consistent with the RFP. The Major
2 Development Activities and Environmental and Permitting status for the Clean
3 Energy PSA Projects as of the date of this filing is described in more detail in
4 Attachment BEL-3.

IV. Purchase and Sale Agreements (PSAs), Due Diligence, and Project Management

5 **Q12. Has the Company entered into PSAs for the purchase of the Clean Energy**
6 **Projects?**

7 Yes. The Company has entered into PSAs for the purchase of 100% of the
8 equity interests of Lake Trout Solar, LLC and Mayapple Solar, LLC, which are
9 affiliates of EDF Renewables Development, Inc. and Lightsource bp,
10 respectively (collectively, Developers). The PSAs are discussed in and provided
11 as Attachments TBG-3C (Lake Trout) and TBG-4C (Mayapple) to the testimony
12 of Company witness Gaul.

13 **Q13. What due diligence did the Company complete on the Clean Energy PSA**
14 **Projects?**

15 A thorough due diligence process was conducted on the Clean Energy PSA
16 Projects and incorporated into execution of the PSAs. Included in the due
17 diligence was a review of the technology, overall project design, third-party
18 resource assessments, transmission and interconnection, permitting,
19 environmental impacts, and site visits.

1 **Q14. What responsibilities do the Developers have in the development and**
2 **construction of the Clean Energy PSA Projects?**

3 The Developers are responsible for development, land acquisition,
4 environmental studies, permitting, engineering, interconnection, procurement of
5 all necessary equipment and materials, construction, and commissioning of the
6 Clean Energy PSA Projects. Developers will communicate with the Company
7 regarding their work to ensure local property owners, community officials, and
8 other stakeholders stay informed on the project activities so that any questions
9 or concerns are addressed in a timely manner.

10 **Q15. What role does the Company have in the engineering, procurement, and**
11 **construction process of the Clean Energy PSA Projects?**

12 As set forth in the PSAs, which are provided as Attachments TBG-3C (Lake
13 Trout) and TBG-4C (Mayapple) to the testimony of Company witness Gaul, the
14 Company has: (1) review rights of the engineering, design, and procurement of
15 major equipment for the Clean Energy PSA Projects; and (2) oversight rights of
16 all construction and testing activities via provisions stipulated in the PSAs.
17 AEPSC, on behalf of the Company, has been involved in defining the scope of
18 work of the Clean Energy PSA Projects, reviewing the Developers' plans to
19 conform to the Company's specifications.

20 AEPSC and the Developers have agreed to specifications for the major
21 electrical equipment, engineering and design reviews, construction quality
22 oversight rights, and scheduling and monitoring requirements. AEPSC will
23 oversee the engineering and construction of the facilities pursuant to the agreed-
24 to design standards and will keep the Company informed of the construction

1 activities influencing the Clean Energy PSA Projects' timely completion by the
2 COD.

3 The Company will also work with the Developers to ensure local property
4 owners, community officials, and other stakeholders stay informed on the project
5 activities so that any questions or concerns are addressed in a timely manner

6 **Q16. Please describe AEPSC's project management and construction**
7 **experience.**

8 AEPSC has a long history of project management and construction of large-
9 scale complex utility projects including the construction of power plants,
10 environmental retrofits and upgrades, and the execution of renewable projects.
11 For example, AEPSC, on behalf of the Company, and as approved by the
12 Commission in Cause No. 44511, developed and managed the execution of the
13 Watervliet Solar Facility, Olive Solar Facility, Deer Creek Solar Facility, and Twin
14 Branch Solar Facility as part of the Clean Energy Solar Pilot Project as well as
15 the St. Joseph Solar Facility approved by the Commission in Cause No. 45245.
16 In addition, AEPSC, on behalf of Public Service Company of Oklahoma (PSO),
17 managed the execution of the North Central Energy Facility projects that brought
18 1,484 MW of wind energy to PSO and Southwestern Electric Power Company
19 (SWEPCO) customers under similar PSA arrangements. AEPSC also executed
20 the repowering of the Trent Mesa and Desert Sky wind facilities in Texas.

21 AEPSC also has a long-proven record of successfully managing new generation
22 development projects and large environmental retrofits and upgrades. AEPSC
23 has managed the development of multiple new generation natural gas projects
24 and installed in excess of 15,000 MW of selective catalytic reduction technology

1 as well as approximately 9,000 MW of flue gas desulfurization technology
2 systems.

3 This extensive project management and construction experience will be
4 invaluable to providing oversight and monitoring of the Clean Energy PSA
5 Projects.

6 **Q17. What are the general components in the construction of a solar facility?**

7 The construction of a solar facility typically includes the following components: 1)
8 basic infrastructure (site preparation, roads, fencing); 2) piling (posts) and
9 racking systems (including tracking); 3) solar panels (modules); 4) inverters and
10 collection system; 5) collection substation; 6) interconnection lines; and 7)
11 operations and maintenance building.

12 Further detail, including the Clean Energy PSAs, is provided in the testimony of
13 Company witness Gaul. Company witness Taberner addresses the
14 interconnection of the PSA projects.

15 **Q18. Are there required permitting approvals for the Clean Energy PSA Projects**
16 **and, if so, what is their status?**

17 The Developers are responsible for all required permitting approvals needed to
18 support the Clean Energy PSA Projects. If there are county requirements
19 related to road use and crossing permits those will be obtained prior to
20 construction. In addition, the Developers' contractors will develop a Storm
21 Water Pollution Prevention Plan and obtain coverage under a National Pollution
22 Discharge Elimination System (NPDES) Storm Water Permit for construction
23 activities. See Attachment BEL-3 for a list of the permitting requirements of the
24 Clean Energy PSA Projects and the current status. The Projects will comply
25 with all applicable state and federal environmental standards, laws, and rules.

1 **Q19. What is the schedule for the construction of the Clean Energy PSA**
 2 **Projects?**

3 Please see Figure BEL-2 below for construction milestones for the Clean Energy
 4 PSA Projects.

Figure BEL-2 – Construction Milestones

Milestone Description	Lake Trout	Mayapple
Purchase Order Issued for GSU Transformers	December 2020	September 2020
Execute Generator Interconnection Agreement	August 2023	July 2024
Start Engineering	July 2023	April 2023
Contractor Mobilization	October 2024	October 2024
Start Underground Cable Installation	January 2025	February 2025
Start Equipment Delivery	January 2025	October 2024
Mechanical Completion	January 2026	March 2026
Substantial Completion / COD	April 2026	May 2026

5 Each Developer's approach to overall construction is reasonable and should
 6 allow the Clean Energy PSA Projects to reach their planned COD. The
 7 Company will monitor the construction process.

8 **Q20. How does the Company plan to monitor the construction progress of the**
 9 **Clean Energy PSA Projects?**

10 The Company will have experienced personnel on-site monitoring construction
 11 progress. Upon delivery of specific Milestone Certificates, the Company will
 12 have an opportunity to review and either (1) identify any open issues or
 13 deficiencies for resolution or (2) accept the Milestone Certificate and the work
 14 underlying the completion. The Company will be monitoring the entire
 15 construction of the facility to ensure the Developers adhere to the technical
 16 specifications and project schedules under the PSAs.

17 The Developers are required to develop detailed project schedules that logically
 18 tie the work relationships between the distinct scopes of its contractors and
 19 major equipment suppliers. The Developers will track deliverables from

1 engineering and design activities, major equipment procurement and delivery,
2 and construction and commissioning status. Construction schedules prepared
3 by the Developers' contractors will also be provided to the Company so that
4 discrete work activities can be monitored.

5 **Q21. Does the Company have the right to review project documents and**
6 **contracts into which the Developers enter?**

7 Yes. The Company has review rights on all Major Project Documents as well as
8 contracts that have a value in excess of Five Hundred Thousand Dollars
9 (\$500,000). Maintaining the review rights will allow the Company the
10 opportunity to review each agreement to ensure that safety, performance,
11 appropriate warranties, and credit requirements are maintained and in place for
12 the construction of the Clean Energy PSA Projects.

**V. Owner's Cost, Overheads, and Allowance for Funds Used During
Construction (AFUDC) Components of Best Estimate Clean Energy
PSA Project Costs**

13 **Q22. What is included in the owner's cost, overheads, and AFUDC components**
14 **of the Clean Energy PSA Projects total installed capital cost Best**
15 **Estimates?**

16 The owner's cost, overheads, and AFUDC components of the total installed
17 capital cost Best Estimate is described in more detail below. Company witness
18 Gaul supports the PSA Purchase Price as set forth in the PSAs.

- 19 • Owner's Costs
- 20 ○ Resiliency and Integration – estimate of owner's costs during construction
21 and commissioning of facility including, plant operations expenses to
22 commission and operate the facility, information technology and telecom

1 integration costs, and commercial operations support to integrate the
2 Clean Energy PSA Projects with the PJM market.

- 3 ○ Project Management – estimate of owner’s costs associated with project
4 oversight during the engineering, procurement, construction, and
5 commissioning of the Clean Energy PSA Projects. This includes project
6 management, construction oversight, project controls, and safety
7 oversight related costs.

8 ● Other Owner’s Costs

- 9 ○ Acquisition and Development – estimate of owner’s costs to complete the
10 acquisition and development processes associated with the Clean Energy
11 PSA Projects. This includes costs associated with administering the All-
12 Source RFP, contract development and negotiations, and the regulatory
13 approval process. These groups include finance, legal, regulatory,
14 environmental, accounting, real estate, and tax.

- 15 ○ Overheads – estimate of owner’s costs for the Clean Energy PSA
16 Projects that include the allocation of corporate overhead costs that are
17 charged to all Company capital projects based on specific cost allocation
18 methods.

- 19 ○ AFUDC – estimate of AFUDC costs for the Clean Energy PSA Projects.
20 AFUDC costs will be accrued based on I&M’s Construction Work in
21 Progress (CWIP) balances during the construction of the projects.

22 **Q23. How were the owner’s cost and overheads component estimates**
23 **developed?**

24 The estimated line items for owner’s costs including Resiliency & Integration,
25 Project Management, and Acquisition & Development were developed based on
26 a combination of project specific staffing plans for the Clean Energy PSA
27 Projects and parametric estimates based on similar projects across the AEP

1 system. The estimate for Overheads is based on expected capital costs over
2 the life of the project for the PSA purchase price and owner's costs multiplied by
3 a capital cost allocation from AEP's budgeting system.

4 **Q24. How were the AFUDC cost estimates developed for each of the Clean**
5 **Energy PSA Projects?**

6 The AFUDC cost estimates are based on the AFUDC accrual rate applied to
7 estimated costs I&M incurs during the construction period.

VI. Clean Energy PSA Projects Projected O&M Cost

8 **Q25. Who will operate and maintain the Clean Energy PSA Projects?**

9 The Company will operate and maintain the Clean Energy PSA Projects and will
10 employ full-time renewable technicians for the Clean Energy PSA Projects. The
11 technicians will be responsible for the overall operations and maintenance of the
12 Clean Energy PSA Projects. Estimates for expected site staff are included in
13 Attachment BEL-1.

14 **Q26. What types of O&M activities will be performed at the Clean Energy PSA**
15 **Projects?**

16 O&M activities will include routine inspections, equipment monitoring,
17 preventative maintenance repairs, acknowledgement and troubleshooting of
18 equipment alarms, and resetting of relays and devices. Company employees or
19 their representatives will also be responsible for following dispatching
20 instructions for facility output and monitoring of equipment performance.

1 **Q27. What are the estimated ongoing O&M costs for the Clean Energy PSA**
2 **Projects?**

3 The ongoing O&M forecast for years 1 through 10 are included in Attachment
4 BEL-4 and BEL-4C for each facility.

5 **Q28. How were the ongoing cost estimates developed?**

6 The ten-year ongoing O&M forecasts for each Clean Energy PSA Project were
7 developed based on site specific capacity factors, industry standards, and
8 operating company experience to perform the O&M at each facility. The data
9 was benchmarked against Original Equipment Manufacturer information, third-
10 party service providers, and existing small scale solar facilities. The estimates
11 include the material and labor needed to perform routine preventative and
12 corrective maintenance, including inverter maintenance. The land lease,
13 property tax, and insurance calculations were provided by internal AEP subject
14 matter experts based on project capital costs and site-specific state and county
15 tax laws. Please see WP BEL-1C - Clean Energy PSA Project Costs
16 Calculations (Confidential/Competitively Sensitive).

17 **Q29. Are the estimated ongoing O&M costs for the Clean Energy PSA Projects**
18 **reasonable?**

19 Yes. The estimated ongoing O&M costs for each of the Clean Energy PSA
20 Projects were developed through thorough due diligence.

VII. Design Life of the Clean Energy PSA Projects

1 **Q30. What is the difference between the Design Life and the Useful Life of a**
2 **solar facility?**

3 The Design Life of a solar facility is the intended life expectancy of engineered
4 equipment, components and materials based on their design. Design Life can
5 be summarized as time until predicted failure or when failure is more likely. The
6 Useful Life, also called performance life or service life, of a solar facility is the
7 length of time an asset can be productively used. For an asset to achieve its
8 Useful Life, recommended operation and maintenance practices must be
9 followed and ongoing capital investments may be necessary. Useful Life can be
10 summarized as time until unproductive.

11 **Q31. What is the Design Life of the Clean Energy PSA Projects?**

12 As I stated earlier in my testimony, the Clean Energy PSA Projects will be
13 engineered to have a minimum Design Life of 30 years as required by the RFP
14 (Section 4.1 of AEP's Solar Farm Technical Specification Design Criteria) and
15 which Design Criteria is included in the scope of work of the PSA. Company
16 witness Gaul sponsors the RFPs. In addition, the due diligence and technical
17 specification included in the PSA support this minimum Design Life.

18 **Q32. Does the ongoing O&M forecast support a 30-year Design Life?**

19 Yes. The Clean Energy PSA Projects' ongoing O&M forecast is based on
20 maintaining the availability and performance over 30 years of operation. This
21 will be achieved through condition monitoring systems, routine preventative
22 maintenance, planned corrective maintenance, and major maintenance.

1 **Q33. Is a 30-year Design Life reasonable?**

2 Yes, it is. Based on AEPSC's experience in the development, engineering, and
3 design of other large complex projects, the RFP bidder requirement, and the
4 O&M plan discussed above, a 30-year Design Life for the Clean Energy PSA
5 Projects is reasonable. Company witness Gaul supports the RFP. In addition,
6 the 30-year Design Life is consistent with industry standards for solar
7 technologies and supported through 30-year performance warranties from solar
8 module manufacturers.

9 **Q34. What is the expected Useful Life of the Clean Energy PSA Projects?**

10 The Company expects the Clean Energy PSA Projects will have a Useful Life of
11 35 years. With advancements in technology and the evolution of O&M
12 practices, a solar facility's Useful Life can typically extend well beyond the
13 Design Life. The Clean Energy PSA Projects' O&M plan takes into account
14 some annual module replacements and typical degradation rates are used to
15 calculate the solar output for a 35 year Useful Life. However, with the expected
16 operations and maintenance, it is reasonable to assume that the Clean Energy
17 PSA Projects may operate beyond the projected 35 year Useful Life.

18 **Q35. What has the Company done to address the Net Salvage and Asset
19 Retirement Obligation (ARO) of each Clean Energy PSA Project?**

20 The Company contracted DNV Energy USA, Inc. (DNV) to do a
21 decommissioning cost analysis report that provides general, non-site specific,
22 estimates based on project size and technology used.

1 **Q36. How is the DNV decommissioning cost analysis report used to develop the**
2 **cost estimates for work that will need to be completed at the end of each**
3 **Clean Energy PSA Project's Useful Life?**

4 The report provides general estimates based on specific technologies and
5 project size that are used to develop the estimates that align with each project's
6 scope. The report, included as Attachment BEL-5C, was provided to the
7 Company's Grid Solutions group and others for project-specific economic
8 modeling purposes, and as discussed in the direct testimony of Company
9 witness Williamson, it was used for purposes of developing rate estimates
10 associated with the Projects as well as certain cost recovery proposals.

11 **Q37. Are the assumptions and cost estimates provided in the DNV**
12 **decommissioning cost analysis report reasonable?**

13 Yes. DNV is an independent expert in assurance and risk management, and
14 their assumptions and estimates are based on industry standards and their
15 extensive experience of solar photovoltaics power project construction and the
16 associated costs of labor, equipment, and materials.

VIII. Summary and Conclusion

17 **Q38. Please summarize your testimony and conclusions.**

18 The Clean Energy PSA Projects presented in my testimony will consist of two
19 separate projects totaling 469 MW of installed capacity. The Projects will be
20 constructed to have a 30-year Design Life and an expected minimum Useful Life
21 of 35 years.

22 The Company will continue to monitor the Projects as engineering and
23 construction progresses. In addition, the Company will have experienced
24 personnel on-site monitoring construction progress. Each Developer's approach

1 to overall construction is reasonable and should allow the Clean Energy PSA
2 Projects to reach their planned COD. The Company and Developers will work
3 together to ensure local property owners, community officials, and other
4 stakeholders stay informed on the project activities and so that any questions or
5 concerns are addressed in a timely manner.

6 The estimated ongoing O&M costs for each of the Clean Energy PSA Projects
7 were developed through thorough due diligence and were based on site specific
8 capacity factors, industry standards, and operating company experience to
9 perform the O&M at each facility.

10 A thorough due diligence process was conducted on the Clean Energy PSA
11 Projects prior to the execution of the PSAs. Therefore, the Commission should
12 approve the PSAs so that the Company may move forward with the
13 development of these Clean Energy PSA Projects.

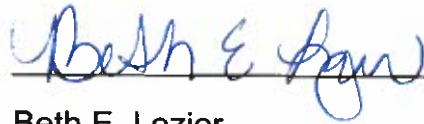
14 **Q39. Does this conclude your pre-filed verified direct testimony?**

15 Yes, it does.

VERIFICATION

I, Beth E. Lozier, Project Director at American Electric Power Service Corporation, affirm under penalties of perjury that the foregoing representations are true and correct to the best of my knowledge, information, and belief.

Date: 3-23-2023



Beth E. Lozier

SOLAR PROJECTS OVERVIEW

	Lake Trout	Mayapple
General		
Capacity	245 MW	224 MW
Developer	EDF	Lightsource bp
Planned COD	April 2026	May 2026
PTC Qualification	100%	100%
Location	Indiana	Indiana
Estimated Leased Area (acres)	1,308	1,198
Expected Site Staff	4	4
SOLAR COMPONENTS (as proposed)		
Panels	533,856	595,746
Rack System	Single Axis	Single Axis
Inverters	67 - 4.2MW	61 - 4.2MW
Electrical Interconnection		
Collector Substations	1	1
Approx. Length of Interconnection Line(s) (miles)	1.5 miles	0.5 miles
Interconnection Voltage	345 kV	345 kV
Interconnection Utility	AEP - I&M	AEP -I&M
Interconnection Location	Desoto-Keystone	Olive-Reynolds (New)

Attachment BEL-2C – Solar Facility Location Map

[CONFIDENTIAL – NOT REPRODUCED HEREIN]

SOLAR PROJECTS STATUS (with Target Completion Dates)

	Lake Trout	Mayapple
Major Development Activities		
Land Acquisition	Complete	Complete
Generator Interconnection Agreement Signed	Complete (Filed unexecuted at FERC on 7/7/22)	July 2024
Environmental and Permitting		
Culture Studies Complete	Complete	Complete
Wetland Delineation Complete	Complete	Complete
Environmental Studies Complete	Complete	Complete
National Pollutant Discharge Elimination System (NPDES) - Water Discharge Permit	August 2023	July 2024
Stormwater Pollution Prevention Plan (SWPPP)	May 2024	July 2024
USACOE Section 404 Permit (US Army Corps of Engineers)	February 2024	May 2024, if applicable

O&M FORECAST (\$000)

Lake Trout	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
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AEP Site Labor (Vehicles, Tooling, Training)

Total O&M Service Costs

General Costs

- Panels (Materials) - Routine
- Inverters (Materials / Service)
- Corrective Maintenance
- Vegetation Management / Weed Control
- Vegetation Management / Mow
- Substation Maintenance
- Auxiliary Power
- SAT (Materials) - Routine
- Combiner Box
- Insurance
- Land Lease
- Property Tax

Total General Costs

I&M Costs

AEPSC Direct Support

	\$	120	\$	123	\$	125	\$	128	\$	130	\$	133	\$	136	\$	138	\$	141	\$	144
Cost Total	\$	120	\$	123	\$	125	\$	128	\$	130	\$	133	\$	136	\$	138	\$	141	\$	144
Total O&M	\$	6,985	\$	7,021	\$	6,843	\$	6,889	\$	6,969	\$	7,304	\$	7,408	\$	7,533	\$	7,661	\$	7,917

O&M FORECAST (\$000)

Mayapple										
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035

AEP Site Labor (Vehicles, Tooling, Training)

Total O&M Service Costs

General Costs

- Panels (Materials) - Routine
- Inverters (Materials / Service)
- Corrective Maintenance
- Vegetation Management / Weed Control
- Vegetation Management / Mow
- Substation Maintenance
- Auxiliary Power
- SAT (Materials) - Routine
- Combiner Box
- Insurance
- Land Lease
- Property Tax

Total General Costs

I&M Costs

AEPSC Direct Support

	\$	117	\$	120	\$	122	\$	125	\$	127	\$	130	\$	132	\$	135	\$	138	\$	140
Cost Total	\$	117	\$	120	\$	122	\$	125	\$	127	\$	130	\$	132	\$	135	\$	138	\$	140
Total O&M	\$	4,913	\$	5,000	\$	5,075	\$	5,172	\$	5,343	\$	5,615	\$	5,695	\$	5,802	\$	5,909	\$	6,134

Attachment BEL-5C: Solar Decommissioning Costs Analysis Report

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