STATE OF INDIANA

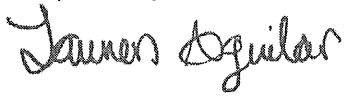
INDIANA UTILITY REGULATORY COMMISSION

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
BARTLEY TABERNER

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

Respectfully submitted,



Teresa Morton Nyhart (Atty. No. 14044-49)
Lauren Aguilar (Atty. No. 33943-49)
Barnes & Thornburg LLP
11 South Meridian Street
Indianapolis, Indiana 46204
Nyhart Phone: (317) 231-7716
Aguilar Phone: (317) 231-6474
Fax: (317) 231-7433
Nyhart Email: tnyhart@btlaw.com
Aguilar Email: laguilar@btlaw.com

Tammara D. Avant (Atty. No. 31466-49)
American Electric Power Service Corporation
101 W. Ohio St., Suite 1320
Indianapolis, Indiana 46204
Phone: (317) 508-9262
Email: tdavant@aep.com

Attorneys for
Indiana Michigan Power Company

CERTIFICATE OF SERVICE

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:

T. Jason Haas
Indiana Office of Utility Consumer Counselor
Office of Utility Consumer Counselor
115 West Washington Street
Suite 1500 South
Indianapolis, Indiana 46204
infomgt@oucc.in.gov
thaas@oucc.in.gov

Jeffrey M. Peabody

Teresa Morton Nyhart (Atty. No. 14044-49)
Lauren Aguilar (Atty. No. 33943-49)
BARNES & THORNBURG LLP
11 South Meridian Street
Indianapolis, Indiana 46204
Nyhart Phone: (317) 231-7716
Aguilar Phone: (317) 231-6474
Fax: (317) 231-7433
Nyhart Email: tnyhart@btlaw.com
Aguilar Email: laguilar@btlaw.com

Tammara D. Avant (Atty. No. 31466-49)
American Electric Power Service Corporation
101 W. Ohio St., Suite 1320
Indianapolis, Indiana 46204
Phone: (317) 508-9262
Email: tdavant@aep.com

Attorneys for INDIANA MICHIGAN POWER COMPANY

I&M Exhibit: _____

INDIANA MICHIGAN POWER COMPANY

PRE-FILED VERIFIED DIRECT TESTIMONY

OF

BARTLEY TABERNER

Content

DIRECT TESTIMONY OF BARTLEY TABERNER
ON BEHALF OF
INDIANA MICHIGAN POWER COMPANY

I. Introduction of Witness

Q1. Please state your name and business address.

My name is Bartley Taberner. My business address is 8600 Smiths Mill Road, New Albany, Ohio 43054.

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

I am employed by the American Electric Power Service Corporation (AEPSC) as a Transmission Planning Manager for East Transmission Planning in AEPSC's Grid Solutions group, (Grid Solutions). AEPSC is a shared services organization that allows American Electric Power (AEP) to achieve economies of scale and provide operational expertise and efficiencies in the provision of engineering, financing, accounting, planning, advisory, and other services to the subsidiaries of the AEP system, one of which is Indiana Michigan Power Company (I&M or the Company).

Q3. Briefly describe your educational background and professional experience.

I received a Bachelor of Science – Electrical Engineering degree from West Virginia University in Morgantown, WV. I joined AEP in 1987 as a Distribution Engineer in the Huntington, WV division of Appalachian Power Company. In 1992 I joined the Marketing and Customer Services organization and spent over nine years as a Power Engineer and Key Account Engineer. In 2001, I joined the East Transmission Planning Department and was promoted to Senior Engineer in 2006 and Supervisor in 2008. In 2010, I was promoted to the position of Manager, Transmission Business Development with responsibilities

for the Potomac -Appalachian Transmission Highline (PATH) project. I returned to Transmission Planning in 2011 as Manager of Compliance, Modeling and Process Development. I moved to my current position as I&M Transmission Planning Manager in 2016. I am a licensed professional engineer in the state of Ohio.

Q4. What are your responsibilities as a Transmission Planning Manager?

My responsibilities include transmission planning activities in Indiana and Michigan for I&M and AEP Indiana Michigan Transmission Company (IMTCO). I&M and IMTCO are in the AEP Zone of PJM LLC (PJM) Regional Transmission Organization (RTO)[1]. For ease of reference, these subsidiaries will collectively be referred to as I&M in this testimony.

II. Purpose of Testimony

Q5. What is the purpose of your testimony?

The purpose of my testimony is to support the Company's request for approval of four solar projects consisting of two purchase sale agreement (PSA) projects and two purchase power agreements (PPA) (collectively the Clean Energy Projects), by explaining the Clean Energy Projects' transmission interconnection to the PJM RTO. In addition, I will address the costs of these interconnections. I am also presenting, with input from Company witnesses David Lucas, Mark Becker and Timothy Gaul, the Company's response to the Indiana Utility Regulatory Commission's (IURC or Commission's) General Administrative Order (GAO) 2022-01, which became effective August 1, 2022.

[1] IMTCO also has an investment in a switchyard in Greentown IN that is in the Midcontinent Independent System Operator RTO.

Q6. Where are the PJM Interconnection System Impact Study Reports for the Clean Energy Projects accessible?

The links to the PJM Generation Interconnection System Impact Study Reports, by project, are listed in Table BT-1:

Table BT-1: List of Projects

Project Name	PJM Queue Number	Generation Interconnection System Impact Study Reports
Lake Trout (PSA)	AF1-119, AF2-162[2]	https://www.pjm.com/pub/planning/project-queues/impact_studies/af1119_imp.pdf https://www.pjm.com/pub/planning/project-queues/impact_studies/af2162_imp.pdf
Mayapple Solar (PSA)	AG1-349	https://www.pjm.com/pub/planning/project-queues/impact_studies/ag1349_imp.pdf
Elkhart County (PPA)	AE2-323	https://www.pjm.com/pub/planning/project-queues/impact_studies/ae2323_imp.pdf
Sculpin (PPA)	AF1-091	https://www.pjm.com/pub/planning/project-queues/impact_studies/af1091_imp.pdf

Q7. Are you sponsoring any Attachments?

Yes. As previously noted, I, along with Company witnesses Becker, Lucas, and Gaul, co-sponsor two attachments that demonstrate compliance with the requirements specified in Appendix A to the GAO 2022-01 for the Clean Energy Projects' approvals requested in this application:

[2] Lake Trout project has two queue numbers because after the original request for interconnection was made (AF1-119) the developer requested additional generating capacity that, per PJM requirements, required an additional queue position to study the increased capacity (AF2-162). The links to the System Impact Studies for both queue numbers have both been included in Table BT-1.

Attachment	GAO 2022-01 Requirement	Project Name
Attachment BT-1	Support for certificate of public convenience and necessity (CPCN) projects submitted pursuant to Ind. Code ch. 8-1-8.5.	Lake Trout Mayapple
Attachment BT-2	Support for PPA projects submitted pursuant to Ind. Code ch. 8-1-8.8.	Elkhart County Sculpin

Q8. Were the attachments that you co-sponsor prepared by you or under your direction or supervision?

Yes.

III. PJM Generation Interconnection Process

Q9. What RTO will these projects be connected to?

The Clean Energy Projects will all be connected to PJM.

Q10. Please discuss the interconnection approval process of these projects.

The PJM RTO has the responsibility for planning the expansion and enhancement of the PJM Transmission system on a regional basis. As such, PJM defines the interconnection process.[3] New generation interconnections that are designated in whole or part as a Capacity Resource or Energy Resource must enter the PJM New Services Queue.

[3] PJM Manual 14A: New Services Request Process: m14a.ashx (pjm.com); PJM Manual 14G: Generation Interconnection Requests: m14g.ashx (pjm.com).

Q11. Please further describe the PJM New Service Queue.

When a New Service Request is submitted to PJM, it is entered into the New Service Queue that is open at the time of the submittal. There are two six-month queue periods per year: period one, which starts on October 1 and closes on the following March 10, and period two, which opens April 1 and closes on the following September 10.[4] All projects submitted in a particular window will be assigned to that queue and the impacts of the project will be evaluated individually and in conjunction with all other projects in that queue. As an example, for the Lake Trout queue numbers shown above, AF1-119 entered the queue on September 13, 2019, and AF2-162, entered the queue on March 16, 2020. Hence, AF1-119 is in the period one queue, and AF2-162 is in the period two queue.

Q12. Please describe the process PJM follows for evaluating projects.

The developer of the project initiates the connection of a proposed generation facility to the transmission system by submitting a New Service Request to PJM, which will be assigned to the relevant New Service Queue as explained in Question 11 above. Based on this request, PJM will prepare an initial Feasibility Study to assess the practicality and cost of integrating the generation into the PJM system. If the study supports the project, PJM will, based on an executed agreement with the customer (developer), prepare a System Impact Study to analyze the connection and determine any ramifications or issues that would need to be addressed if the project were to be constructed. Finally, if the System Impact Study determines the interconnection can proceed, then a Facilities Study is performed that focuses primarily on the design and cost of facilities necessary to physically connect the generation to the transmission

[4] Projects dated subsequent to September 10 but before October 1 are considered in the Period 1 queue, and projects dated subsequent to March 10 but before April 1 are consider in the Period 2 queue.

system. Construction of the interconnection point will be managed by the transmission owner, in this case AEPSC on behalf of I&M.

Q13. Does I&M participate in this process?

Yes, as the transmission owner. While PJM is responsible for the required analysis, they will consult with the transmission owner during the process. In addition, while PJM will identify the improvements necessary for a successful generation interconnection, the required facilities will, as described above, be designed with I&M's input and must meet I&M's technical specifications.

Q14. Have estimates of the required interconnection costs for each Clean Energy project been developed?

The Generation Interconnection System Impact Study Reports (shown in Table BT-1 above) include a cost estimate for each project. As noted therein[5], these studies are subject to revisions due to subsequent engineering studies and on-site reviews to determine final construction requirements. In addition, there may be a need for a Federal Income Tax gross up adjustment based on whether the project meets certain Internal Revenue Service requirements. Finally, stability analysis performed during the development of each project's Facilities Study may identify additional upgrades not considered in the System Impact Study Report. These costs are taken into consideration in the PSA Clean Energy Project's Best Estimates and risk registers sponsored by Company witnesses Lozier and Gaul. The status of the Facilities Studies are discussed later in my testimony. Company witness Gaul also discusses the interconnection costs of the PPA Clean Energy Projects.

[5] See the "Cost Summary" Section in the Generation Interconnection System Impact Study Reports for Lake Trout, Mayapple Solar, and Sculpin at ¶5 and Elkhart County at ¶2.2.

IV. Status of Projects in the PJM Interconnection Queue

Q15. Have interconnection requests been made for these projects?

Yes. The interconnection requests have been submitted to PJM. The respective queue numbers are listed in Table BT-1 presented previously in this testimony.

Q16. Please discuss the status of these requests.

Feasibility and Generation Interconnection System Impact Study Reports have been completed and links to the latter on the PJM website are provided in Table BT-1. All requests are currently in the Facilities Study stage of the PJM process. The Facilities Studies reports for these projects will be issued by PJM upon completion of the respective studies.

Q17. What factors impact the delivery of a Facilities Study?

While a Facilities Study is associated with a specific project, the impact of all projects in the queue must be considered in determining the impact on the overall transmission system. As noted above, the Facilities Study will include stability analyses to identify additional upgrades that may not have been identified in the System Impact Study Report. Because PJM cannot consider individual projects in a vacuum when determining the need for network upgrades, PJM's stability analysis must ensure that the impact on the network of all discrete projects in the New Service Queue are considered. This necessary analysis can make it difficult to determine the exact time a Facilities Study will be issued. This complexity is further magnified by the increasing level of queue submissions before PJM as Transmission Owners seek to upgrade their systems and generation developers request connections of new facilities.

Q18. Is PJM actively addressing the increased demand for facilities studies?

Yes. On June 12, 2022, in Docket No. ER22-2110, PJM filed a request to revise its tariff addressing new interconnection service requests. These changes were approved, effective January 3, 2023, in an order issued on February 2, 2023.

V. GAO 2022-01

Q19. Are you familiar with GAO 2022-01?

Yes. The GAO provides guidelines for additional evidence to be provided in connection with petitions regarding electric generation under Ind. Code ch. 8-1-8.5 that request a CPCN for new electric generation and under Ind. Code ch. 8-1-8.8 that request approval of a multi-year PPA for electric generation.

Q20. Please provide the information requested by GAO 2022-01 as it applies to the Clean Energy Projects I&M is requesting approval of under Ind. Code ch. 8-1-8.5 or 8-1-8.8.

The required information as it pertains to this application is provided in Attachment BT-1 (for the CPCN projects) and Attachment BT-2 (for the PPA projects) to this testimony.

VI. Conclusion

Q21. Please summarize your conclusions and recommendations.

As I have explained above, the Clean Energy Projects are progressing through the PJM interconnection process. PJM is responsible for this process and as the RTO will make the final decisions regarding interconnection. The Company

has also provided the information required by the recently adopted GAO-2022-01.

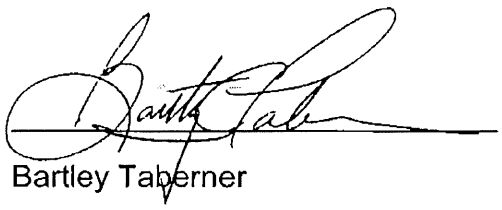
Q22. Does this conclude your pre-filed verified direct testimony?

Yes.

VERIFICATION

I, Bartley Taberner, Transmission Planning Manager 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: 3/23/23



Bartley Taberner

GAO 2022-01 Information for Certificate of Public Need and Necessity Projects

GAO 2022-01 Guideline	Sponsoring Witness(es)	Lake Trout AF1-119 AF2-162	Mayapple AG1-349
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.	Taberner	The project will be connected to a new 345kV switching station on AEP's Desoto - Keystone 345kV circuit in PJM. PJM's planning reserve margin for 2022 was set at 9.08% unforced capacity (UCAP). See PJM's Generation Interconnection System Impact Study, in which PJM has provided a qualitative and quantitative study regarding this project. A link to this study can be found in the direct testimony of Bartley Taberner at Q6.	The project will be connected to a new 345kV switching station on AEP's Olive – Reynolds #2 345kV circuit in PJM. PJM's planning reserve margin for 2022 was set at 9.08% UCAP. See PJM's Generation Interconnection System Impact Study, in which PJM has provided a qualitative and quantitative study regarding this project. A link to this study can be found in the direct testimony of Bartley Taberner at Q6.
A description of the new generation's anticipated impact on the submitting utility's resource adequacy and reliability.	Lucas	These specific projects are aligned with the goals stipulated in the 21st Century Development Task Force Report. It is expected to contribute to meeting resource adequacy requirements and contribute to the overall reliability of I&M's system. Please see the direct testimony of David A. Lucas at Q16 and Sections VII and VIII for a description of how these projects will satisfy: 1) the five goals defined in the Final Report issued by the 21st Century Energy Policy Development Task Force: reliability, resilience, stability, affordability, and environmental sustainability; and, 2) how the projects will help fulfil the capacity needs identified in I&M's 2021 IRP.	
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.	Taberner	PJM requires new interconnections to go through a review process. Please see the direct testimony of Bartley Taberner, Q9 – Q18, for a description of PJM interconnection process. Generation Interconnection System Impact Studies for these two projects were issued as follows: 1) Lake Trout's studies were issued in August, 2020 and, for incremental increases in output, February 2021; and, 2) Mayapple's study was issued in August, 2021; Links to these studies can be found in witness Taberner's direct testimony at Q6.	

GAO 2022-01 Guideline	Sponsoring Witness(es)	Lake Trout AF1-119 AF2-162	Mayapple AG1-349
A description of the new generation's expected capacity factors, dispatchability, and accreditation characteristics.	Gaul	The project will provide 245 MW of nameplate capacity (ICAP), at an expected capacity factor of 23.64% via the AF1-119 and AF2-162 interconnection. Calculation of an accredited UCAP for the facility is the product of the effective nameplate capacity (ICAP), the applicable Effective Load Carrying Capability (ELCC) class rating, and the ELCC performance adjustment. The ELCC rating and performance vary by year. However, in its first year the Lake Trout project will have an ELCC value of 51%, providing approximately 125 MW of UCAP accredited capacity for that year. The project will be a variable resource.	The project will provide 224 MW of nameplate capacity (ICAP), at an expected capacity factor of 21.74% via the AF1-349 interconnection Calculation of an accredited UCAP for the facility is the product of the effective nameplate capacity (ICAP), the applicable ELCC class rating, and the ELCC performance adjustment. The ELCC rating and performance vary by year. However, in its first year the Mayapple project will have an ELCC value of 51%, providing approximately 113 MW of UCAP accredited capacity for that year. The project will be a variable resource.
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).	Becker	As noted above, this project is expected to provide approximately 125 MW of UCAP accredited capacity identified in the preferred portfolio identified in I&M's 2021 IRP filing.	As noted above, this project is expected to provide approximately 113 MW of UCAP accredited capacity identified in the preferred portfolio identified in I&M's 2021 IRP filing.

GAO 2022-01 Information for Purchase Power Agreement Projects

GAO 2022-01 Guideline	Sponsoring Witness(es)	Elkhart County AE2-323	Sculpin AF1-091
The name of the RTO to which the generation will be connected.	Taberner	The project will be connected to a new 138kV switching station on AEP's Twin Branch – Guardian 138kV circuit in PJM.	The project will be connected to a new 138kV switching station on AEP's Varner – Sowers 138kV circuit in PJM.
A description of the new generation's anticipated impact on the submitting utility's resource adequacy and reliability.	Lucas	These specific projects are intended to meet the goals stipulated in the 21st Century Development Task Force Report. It is expected to contribute to meeting resource adequacy requirements and contribute to the overall reliability of I&M's system. Please see the direct testimony of David A. Lucas at Q16 and Sections VII and VIII for a description of how these projects will satisfy: 1) the five goals defined in the Final Report issued by the 21st Century Energy Policy Development Task Force: reliability, resilience, stability, affordability, and environmental sustainability; and, 2) how the projects will help fulfil the capacity needs identified in I&M's 2021 IRP.	
An explanation regarding whether the generation is required to be in the RTO's interconnection queue and, if so, its status in the queue.	Taberner	PJM requires new interconnections to go through a review process. Please see the direct testimony of Bartley Taberner at Q9 – Q18 for a description of PJM interconnection process. Generation Interconnection System Impact Studies for these two projects were issued as follows: 1) Elkhart County's study were issued in February, 2020; and, 2) Sculpin's study was issued in August, 2020. Links to these studies can be found in witness Taberner's direct testimony at Q6.	
A description of the generation's expected capacity factors, dispatchability, and accreditation characteristics.	Gaul	The project will provide 100 MW of nameplate capacity (ICAP), at an expected capacity factor of 25.44% via the AE21-323 interconnection. Calculation of an accredited unforced capacity (UCAP) for the facility is the product of the effective nameplate capacity, the applicable Effective Load Carrying Capability (ELCC) class rating, and the ELCC performance adjustment. The ELCC rating and performance vary by year. However, in its first year the Elkhart County	The project will provide 180 MW of nameplate capacity (ICAP), at an expected capacity factor of 23.9% via the AF1-091 interconnection. Calculation of an accredited UCAP for the facility is the product of the effective nameplate capacity, the applicable Effective Load Carrying Capability (ELCC) class rating, and the ELCC performance adjustment. The ELCC rating and performance vary by year.

GAO 2022-01 Guideline	Sponsoring Witness(es)	Elkhart County AE2-323	Sculpin AF1-091
		project will have an ELCC value of 51%, providing approximately 51 MW of accredited capacity for that year. The project will be a variable resource.	However, in its first year the Sculpin project will have an ELCC value of 51%, providing approximately 92 MW of accredited capacity for that year. The project will be a variable resource.
A description of how the generation is expected to perform at the relevant RTO's peak pursuant to its capacity construct.	Becker	As noted above, this project is expected to provide approximately 51 MW of UCAP accredited capacity identified in the preferred portfolio identified in I&M's 2021 IRP filing.	As noted above, this project is expected to provide approximately 92 MW of UCAP accredited capacity identified in the preferred portfolio identified in I&M's 2021 IRP filing.