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July 20, 2023

Ms. Lisa Felice
Executive Secretary
Michigan Public Service Commission
PO Box 30221
Lansing, MI 48909-7721

Re: Case No. U-21189
Indiana Michigan Power Company

Dear Ms. Felice:

Enclosed for electronic filing in the above-referenced matter is the Direct Testimony of D. Dean Koujak on behalf of Indiana Michigan Power Company and Proof of Service.

If you have any questions, please contact me.

Sincerely,

Dykema Gossett PLLC

Jason T. Hanselman

Digitally signed by: Jason T. Hanselman
DN: CN = Jason T. Hanselman email = jhanselman@dykema.com C = AD O = Dykema OU = Dykema
Date: 2023.07.20 15:07:52 -04'00'

Jason T. Hanselman

STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the application of	**)**	
INDIANA MICHIGAN POWER COMPANY	**)**	
for approval of its integrated resource	**)**	**Case No. U-21189**
plan pursuant to MCL 460.6t, avoided	**)**	
costs and for other relief.	**)**	

PREFILED DIRECT TESTIMONY OF D. DEAN KOUJAK

ON BEHALF OF

INDIANA MICHIGAN POWER COMPANY

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

A1. My name is D. Dean Koujak. My business address is 1411 Broadway, 35th Floor, New York, NY 10018.

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

A2. I am employed by Charles River Associates as a Principal in the Energy practice.

Q3. Briefly describe your educational background and professional experience.

A3. I have over 18 years of experience in the electric power sector, as a consultant in the Energy practice of Charles River Associates (CRA), and previously with Guidehouse, Inc. and a predecessor firm, Navigant Consulting, Inc. Throughout my career, I have worked with utilities covering power procurement, including generation and transmission resource acquisition, and resource planning across the U.S. and Canada. I have served in a variety of capacities providing independent oversight of procurements across the U.S., including as an Independent Evaluator, Observer, Monitor and Auditor. I hold a B.S. in Engineering Management from NYIT, an MBA from SUNY Stony Brook, and JD from Hofstra University.

Q4. What are your responsibilities as Principal at CRA?

A4. As a Principal, I lead engagements on behalf of clients which includes utilities and public utility commissions. Specifically on this engagement for I&M, I served as the Independent Monitor.

Q5. Have you previously testified before any regulatory commissions?

A5. Yes, I have provided testimony and expert report filings in the states of Arizona, Michigan, Hawaii, Minnesota, New Mexico, Texas and South Carolina related to

utility competitive procurement of generation resource acquisition. I have supported the development of testimony and expert report filings in New York and Ohio.

Q6. What role did CRA serve in the request for proposals (RFP) process?

A6. CRA served as the Independent Monitor. Pursuant to this role, CRA oversaw the design and development of the RFP, conducted the stakeholder engagement process, administered the solicitation including the issuance of the RFP, handled Q&A process, and the receipt of the proposals. CRA performed the threshold and eligibility analysis on all proposals received, and then oversaw the balance of the evaluation process conducted by I&M. In addition, we oversaw all bidder communications during the pendency of the solicitation process to shortlisting. CRA was consulted during the negotiation process with regards to negotiated changes to assess whether such changes would impact the integrity of the process and final selection results.

Q7. Is your compensation in this case related in any way to the conclusions or recommendations you make?

A7. No. CRA is compensated for our services regardless of the conclusions or recommendations we are making.

Q8. Have you previously served as an Independent Monitor?

A8. Yes. I have served in an independent oversight, evaluation, administration or monitoring role on solicitations issued by or on behalf of Arizona Public Service, Xcel Energy/Southwestern Public Service, Xcel Energy – Northern States Power, FirstEnergy Ohio Utilities, AEP Ohio, DTE Energy, Hawaiian Electric Companies,

SaskPower, and a consortium of NJ Utilities (JCP&L, Atlantic City Electric, and Rockland Electric).

Q9. Do you have other experience in the field of competitive procurement?

A9. In addition to my Independent Monitor experience, I have worked with several utilities in the design, development, and execution of their competitive generation RFPs, covering renewable generation, conventional thermal generation, demand response, energy efficiency and distributed energy resources.

Q10. Are you familiar with the Michigan Competitive Procurement Guidelines?

A10. Yes. I followed and presented to the Competitive Procurement Workgroup convened by the Commission that helped develop the guidelines under MPSC Case No. U-20852. I have reviewed the final guidelines adopted by the commission and am familiar with them.

Q11. What is the purpose of your testimony?

A11. The purpose of my testimony is to describe CRA's role and conclusions as the Independent Monitor for I&M's procurement process under the 2022 All-Source RFP which are set forth in Exhibit IM-1 (DDK-1). Company witness Gaul also discusses the RFP process. My testimony also presents evidence that I&M's procurement process was consistent with the Michigan Competitive Procurement Guidelines. In overseeing the competitive solicitation process, I concluded that the shortlisted projects, including the Projects[1] sought for approval in this case, are reasonable and prudent.

[1] The projects sought for approval in this case are the Mayapple Purchase and Sale Agreement (PSA), the Elkhart County Power Purchase Agreement (PPA), the Sculpin PPA, and the Montpelier Capacity-only Purchase Agreement (CPA) (collectively, "the Projects").

Q12. Are you sponsoring any Exhibits?

A12. Yes, I am sponsoring:

- Exhibit IM-1 (DDK-1), the Independent Monitor's Report on the Solicitation Process and Results.[2]
- Exhibit IM-8 (DDK-2), the professional resume of D. Dean Koujak.

Q13. Were the Exhibits that you sponsor prepared by you or under your direction?

A13. Yes.

Q14. Please describe Exhibit IM-1, the Independent Monitor's Report on the Solicitation Process and Results.

A14. The Report, Exhibit IM-1 (DDK-1), addresses CRA's role as Independent Monitor under the I&M 2022 All-Source RFP. The report covers the scope of our oversight, the RFP process conducted, including the stakeholder engagement process, RFP design, issuance, evaluation and final shortlisting. The report addresses our findings with respect to the fairness and consistency of the solicitation process.

Q15. Describe CRA's assessment and conclusions regarding the 2022 All-Source RFP.

A15. In CRA's review of the RFP documents and evaluation process, our assessment of the RFP process concludes that: (i) I&M developed the RFP documentation in a clear and transparent manner; (ii) I&M performed the evaluation on a fair and consistent basis in-line with the process noted in the RFP; (iii) the criteria used in the evaluation is in-line with typical utility practice and reasonable to achieve the

[2] Exhibit IM-1 was originally presented as part of my Affidavit executed on March 8, 2023 that was filed with the Company's Ex Parte Application in this proceeding.

goals of the RFP; (iv) the shortlisting of finalists was also performed on a fair and consistent basis with the process published in the RFP; and (v) there is no evidence that the evaluation and selection process caused any unfair advantage or disadvantage to any interested respondent.

Q16. Is the procurement process I&M followed resulting in the Projects sought for approval in this case the result of a competitive process consistent with the Guidelines?

A16. Yes. As reflected in Exhibit IM-1 (DDK-1), I&M satisfied the oversight requirement noted in the MPSC's order establishing the Competitive Procurement Guidelines through CRA's oversight of the process as an Independent Monitor. In addition, CRA conducted the stakeholder process as stipulated under the guidelines in compliance with the proscribed timeline applicable to this RFP. CRA further validated the selection results through a thorough review of both the non-economic and economic criteria as applied to each evaluated proposal. The shortlisted proposals were consistent with the process established as a result of the stakeholder sessions, which is compliant with the MPSC guidelines. In summary, the Projects were the result of a competitive process and are reasonable and prudent.

Q17. Does this conclude your pre-filed direct testimony?

A17. Yes.

CRA Charles River Associates

Prepared for:

Indiana Michigan Power Co.

110 E Wayne St

Fort Wayne, IN 46802

2022 Indiana Michigan Power Company (I&M) All-Source RFP

Independent Monitor's Report on the Solicitation Process and Results

Prepared by:

D. Dean Koujak

Thomas Haratym

Charles River Associates

200 Clarendon Street

Boston, Massachusetts 02116

Date: December 15, 2022

CRA Project No. 35986

Disclaimer

The conclusions set forth herein are based on independent research and publicly available material. The views expressed herein are the views and opinions of the authors and do not reflect or represent the views of Charles River Associates or any of the organizations with which the authors are affiliated. Any opinion expressed herein shall not amount to any form of guarantee that the authors or Charles River Associates has determined or predicted future events or circumstances and no such reliance may be inferred or implied. The authors and Charles River Associates accept no duty of care or liability of any kind whatsoever to any party, and no responsibility for damages, if any, suffered by any party as a result of decisions made, or not made, or actions taken, or not taken, based on this paper. Detailed information about Charles River Associates, a trademark of CRA International, Inc., is available at www.crai.com.

Table of contents

1. Executive Summary

1.1. Background

This report summarizes Charles River Associates Inc. (CRA) assessment and findings as an Independent Monitor for the All-Source Request for Proposals (RFP) issued by Indiana Michigan Power Company (I&M or the Company). Under the RFPs, I&M solicited approximately 800 MW of nameplate rated wind energy resources, 500 MW of nameplate rated solar energy resources, and supplemental capacity resources to meet overall capacity needs. Potential respondents were requested to bid under a purchase and sale agreement (PSA) or power purchase agreement (PPA) on either 3rd party developed or select I&M sites with existing solar facilities.

The RFPs were issued pursuant to I&M's 2021 IRP as filed and submitted in January 2022 in Indiana and February 2022 in Michigan. Under the IRP, specific MW buildouts of solar and wind resources were identified, however, based on the actual market response, the Company reserved the right to pursue more or less of any resource type as result of its competitive procurement process.

Prior to issuance of the RFP, I&M retained CRA to serve as the Independent Monitor on I&M's All-Source RFP, covering all jurisdictional requirements set forth by the Indiana Utility Regulatory Commission (IURC) and the Michigan Public Service Commission ("MPSC"), including the competitive procurement guidelines adopted in U-20852. Pursuant to CRA's agreed to scope of work as Independent Monitor, CRA served in a lead role with respect to the stakeholder engagement processes associated with the RFP, ensuring that stakeholder input was incorporated into the competitive procurement process, performed the eligibility and threshold screening, and oversaw I&M in the development, issuance, and evaluation of the RFP.

1.2. Summary and Recommendations

We have completed our assessment with respect to the I&M RFP and find the following:

- The RFP documentation was developed in a clear and transparent manner. The products sought were well defined. The evaluation criteria were indicated clearly in the RFP documentation. Detailed information regarding how I&M would conduct both the economic and non-price evaluation was provided in the RFP.
- Respondents were given an opportunity to cure noted deficiencies within a reasonable period of time, which helped maintain the range of proposals evaluated and the competition among them.
- The evaluation stage, including the economic and non-price evaluations, was performed on a fair and consistent basis with the process published in the RFP. Use of Levelized Adjusted Cost of Energy (LACOE), Levelized Adjusted Cost of Capacity (LACOC), and Value-to-Cost Ratio as the basis for scoring on economic grounds is reasonable and typical, as were the adjustments ascribed to the proposal types to effectively compare the proposals on an equivalent basis across a 30-year time horizon. Use of a scoring sheet/matrix is also reasonable and typical.
- The range of scoring guidelines is reasonable and consistent with similar criteria we have developed or observed with electric utilities. I&M subject matter experts that performed the review and scoring, as overseen by CRA, were consistent in their approach. The combined scoring and ranking using a weighting between economic and non-price criteria was reasonable.

- The evaluation process was reasonable and demonstrated an effort on the part of I&M to ensure a competitive solicitation.
- The shortlisting of finalists was also performed on a fair and consistent basis with the process published in the RFP.
- There is no evidence that the evaluation and selection process caused any unfair advantage or disadvantage to any interested party or respondent.

This report summarizes our review and findings as of the date of this report.

2. RFP Development

This section summarizes the process undertaken by I&M, in coordination with CRA, in the design, development, and issuance of the RFP. As the Independent Monitor, CRA served in a lead role with respect to the stakeholder engagement processes associated with the RFP, ensured that stakeholder input was incorporated into the competitive procurement process and oversaw I&M's overall development of the RFP.

2.1. Stakeholder Feedback Process

Stakeholder feedback was solicited and evaluated in accordance with the following schedule:

Table 1: Stakeholder Feedback Timeline

Meeting/Milestone	Purpose	Date and Time
RFP Development Meeting	Initial discussion with stakeholders regarding the development of the All-Source RFP.	January 18, 2022 @ 3 PM Eastern
Draft RFP Released	Draft RFP documents and evaluation factors were posted publicly on the RFP website for comment by all stakeholders.	January 28, 2022
Pre-RFP Stakeholder meeting	Second discussion held with stakeholders to review the draft RFP, minimum eligibility requirements, and evaluation factors.	February 8, 2022 @ 3 PM Eastern
Comments Due	Written comments from all stakeholders to the Independent Monitor were received by this due date.	February 18, 2022

Source: I&M

On January 18, 2022, CRA hosted a webinar with potential respondents and interested stakeholders to review the scope of the RFP, the draft evaluation criteria, and the proposed RFP timeline. In addition, CRA provided instructions with regards to the process by which stakeholders would be able to submit feedback. Prior to the meeting, an e-mail notice was sent out to approximately 190 stakeholders, including many potential market participants, organizations, commission staff, and other registrants that indicated interest in the process. During the webinar, stakeholders were able to address questions directly via the teleconference and via the chat function. Stakeholders submitted a number of comments during and after conclusion of the webinar, including the following which were posted on the RFP website:

Table 2: Comments Received on RFP Scope

No.	Question/Comment	Response
1	Will I&M consider projects in Illinois?	Under the framework presented on January 18, I&M projects must be located in the states of Indiana or Michigan (or Illinois for Wind Projects) and interconnect to 1) PJM, 2) MISO with firm deliverability rights into PJM, or 3) I&M's Distribution System. I&M has a preference for projects that provide economic benefit to the states of Indiana or Michigan.
2	Would I&M consider projects in the MISO interconnection queue?	Projects must be located in the states of Indiana or Michigan (or Illinois for Wind Projects) and interconnect to 1) PJM, 2) MISO with firm deliverability rights into PJM, or 3) I&M's Distribution System. I&M has a preference for Projects that provide economic benefit to the states of Indiana or Michigan. Projects in PJM must have a completed PJM System Impact Study. Projects interconnecting to MISO must have completed Phase 3 of MISO's Definitive Planning Phase and have the Final DPP SIS and Network Upgrade Facilities Study and have secured Firm Transmission into PJM. Projects interconnecting to I&M's distribution electrical system must have a completed Distribution Impact Study from the I&M Distribution Planning Group. The interconnection point with PJM or I&M's distribution electrical system will be the Point of Delivery.
3	Can you explain how debt equivalency costs plays a role in the RFP?	Debt equivalency costs are intended to account for the "debt-like" financial obligation impact that Power Purchase Agreements have on the credit metrics of utilities. Debt equivalency costs are included in the Levelized Adjusted Cost of Energy (LACOE) for all PPAs to ensure bids are compared on an equivalent basis. *Response updated on February 24, 2022 to reflect that the adjustment is initially made to the Levelized Adjusted Cost of Energy (LACOE), which is later updated and included in the Levelized Adjusted Net Cost of Energy (LANCOE).* Also, *last sentence "bids" replaces "projects".*
4	Are there inflection points considered for debt equivalency?	No, debt equivalency costs are estimated by I&M and applied in the Levelized Adjusted Cost of Energy (LACOE) to all PPA proposals. *Response updated on February 24, 2022 to reflect that the adjustment is initially made to the Levelized Adjusted Cost of Energy (LACOE), which is*

No.	Question/Comment	Response
		later updated and included in the Levelized Adjusted Net Cost of Energy (LANCOE).
5	Will a demand response program be an acceptable way to meet the capacity requirements of this RFP? While RFPs may not be the best way to acquire demand-side resources, we believe they should be eligible to respond. We do not think any energy efficiency resources are likely to respond, but a demand response aggregator may and should be allowed to make an offer.	No. A demand response program (DR) will not be considered as a qualifying resource within this RFP.
6	Emerging long duration energy storage technologies have the potential to provide significant performance and economic optimization benefits. These technologies are commercially available today and development is already underway for several projects for customers in the US with COD [Commercial Operations Date] in the next couple of years. The requirement to have a completed interconnection study before proposal submission prevents the majority of technologies (beside li-ion) from being considered, despite the willingness of technology providers to financially guarantee the performance of the system. Is there an avenue available to discuss non-conforming bids that address the biggest pain points faced by IMP?	The interconnection study status requirements in the RFP are designed to ensure that: 1) projects have reached a level in the interconnection process that ensures they can be reliably delivered within the required timeframe, and 2) that estimated interconnection and network upgrade costs can be incorporated into the bid selection process. One exception to this requirement is that storage projects that are being proposed to enhance the capacity of existing I&M-owned solar facilities will either require a completed system impact study or have established capacity injection rights into PJM.

Source: CRA, I&M

Pursuant to feedback received at the January 18, 2022 RFP Development Meeting with stakeholders, I&M developed the draft RFP document and associated documentation. On January 28, 2022, the documents were posted on the RFP website located at www.imallsourcerfp.com for review by stakeholders. An e-mail notice was sent out to the distribution list maintained by CRA.

I&M actively solicited feedback from customer groups and potential participants. To this end a dedicated e-mail address was established to receive comments and questions. Several key themes emerged from this process:

- Difficulty for some projects to attain an interconnection study
    - **Issue:** Certain respondents requested that I&M consider relaxing the interconnection study status to allow more early stage projects for consideration.
    - **Context:** The interconnection study status requirements in the RFP are designed to ensure that: 1) projects have reached a level in the interconnection process that ensures they can be reliably delivered within the required timeframe, and 2) that estimated interconnection and network upgrade costs can be incorporated into the bid selection process. One exception to this requirement is that storage projects that are being proposed to enhance the capacity of existing I&M-owned solar facilities will either require a completed system impact study or have established capacity injection rights into PJM.
    - **Response:** CRA reviewed the feedback from respondents relating to interconnection status. Ultimately, we concluded that relaxing this standard would introduce excessive project development risk overall and accordingly, would disadvantage such projects during the course of the evaluation such that they are unlikely to be selected given their lower comparative score. Our view is that early stage projects will have an opportunity to bid in a future solicitation as they continue to mature and meet the threshold bar, therefore the criteria is not discriminatory. In addition, we have seen this standard implemented across the industry with other similarly situated electric utilities to ensure that selections are more “shovel ready” rather than speculative in nature. In conclusion, while we acknowledge the developer’s concerns, we agree with maintaining the inclusion of the interconnection study requirements as a threshold bar.
- Demand-side resource participation
    - **Issue:** Developers inquired regarding whether Demand-side resources could participate in the RFP.
    - **Context:** The RFP, as designed, was open to transmission-interconnected or distribution-connected generating resource technologies. Accordingly, demand-side resources are not considered as a qualifying resource within this RFP.
    - **Response:** CRA reviewed the rationale regarding why Demand-side resources were not allowed to participate. Overall, Demand-side resources have more unique value streams and differing characteristics that are not particularly aligned well with distribution and transmission interconnected generating resources, which results in a potentially inconsistent evaluation. We agreed with excluding Demand-side resources in this RFP to ensure transparency, fairness and definition is maintained in the procurement process.
- Confidentiality Agreements (“CAs”) - timing
    - **Issue:** Certain prospective bidders were concerned with the timing of executing CAs.
    - **Context:** The original RFP schedule had an aggressive due date for CAs.

- **Response:** CRA agreed with the comment. To extend the time period available, I&M processed requests for the confidentiality agreements prior to the release of the RFP. Companies who executed the CA prior to the RFP release received the documents on the RFP release date.

- Long duration storage and emerging technologies
  - **Issue:** A long-duration storage developer raised a concern regarding the durational limitation. According to the developer, it would limit potential responses and attendant benefits.
  - **Context:** The original RFP had a maximum duration limit for battery storage.
  - **Response:** I&M removed the duration limit on storage technologies as a requirement and made clear that it will consider non-battery storage systems. However, for newer/emerging technologies, under the RFP they must have demonstrated feasibility, be commercialized, and qualify as a capacity resource under the PJM tariff. CRA agreed with this change as it maximizes participation in the RFP while remaining within the evaluation framework.
- Geography for wind
  - **Issue:** A concern was raised regarding the availability of Wind projects in Indiana, Michigan, and Illinois.
  - **Context:** There is a limited number of potentially eligible projects across these three states.
  - **Response:** I&M expanded the geographic scope of the RFP to consider Ohio-based wind projects. Location requirements for solar and Supplemental Capacity Resources remained limited to Indiana and Michigan. CRA agreed with this change as it maximizes participation in the RFP while remaining within the evaluation framework.
- Debt equivalency
  - **Issue:** A few questions were received regarding the contribution of debt equivalency in the evaluation of bids.
  - **Context:** Debt equivalency costs are intended to account for the "debt-like" financial obligation impact that Power Purchase Agreements have on the credit metrics of utilities. Debt equivalency costs are included in the Levelized Adjusted Cost of Energy (LACOE) for all PPAs to ensure bids are compared on an equivalent basis. I&M proposed to calculate the debt equivalency cost based on S&P methodology.
  - **Response:** Based on other utilities similarly situated to I&M, this factor is typically included for RFP evaluation purposes. CRA agrees with maintaining the present calculation.

2.2. Assessment of the final RFP design

I&M released the RFP to solicit solar, wind, and capacity resources and allowed proposals pursuant to a:

- Power Purchase Agreement (PPA); and/or
- Purchase and Sale Agreement (PSA)

The following documents were included in the RFP release and reviewed by CRA:

- RFP overview document
    - Project Summary
    - Bidder's Credit-Related Information
    - Bidder Profile
    - Project Summary
    - Bidder's Credit-Related Information
    - Bidder Profile
    - Form Purchase and Sale Agreement (PSA)
    - Form Power Purchase Agreement (PPA)
    - AEP Generation Facility Standard
    - AEP Requirements for Connection of Facilities
    - Wind Resource Information
    - Solar Resource Information
    - Storage Resource Information
    - Thermal Resource Information
    - Emerging Technology Resource Information
    - Project Land Lease Costs / Decommissioning Costs / Auxiliary Load
    - Project Technical Due Diligence Material
    - Environmental / Wildlife / Site Information
    - Indiana and Michigan Economic Stimulus Benefits / Community Support /
    - Supplier/Contractor Diversity
    - Proposal Content Check Sheet
- AEP Interconnection Requirements
- Final Scoring Template

Specifically, CRA reviewed the RFP overview document to ensure it is clear and transparent. As part of this review, the CRA team reviewed the document to ensure that requested submittal items were aligned substantially with the internal scoring criteria and all items necessary for evaluation were requested in the RFP. The team also reviewed the RFP document to ensure sufficient information about the scoring criteria was included. The purpose of this is to ensure bidders were apprised of the key areas they will be evaluated against, so they may prepare their bids accordingly. CRA's comments were adopted by I&M in its final issued RFP.

Proposals were evaluated using the evaluation and selection process described in Section 9 of the RFP (Proposal Evaluation) and in accordance with an internal process document developed by the Company prior to bid receipt. For a proposal to advance to the evaluation process, it had to pass through a screening process to ensure that the proposals provided are complete with respect to content and conform to the bid requirements stated in the RFP. In some cases, proposals were evaluated and scored while those bidders were given a

reasonable opportunity to clarify statements or provide missing information related to the eligibility and threshold screening criteria.

The bid requirements addressed specific concerns regarding the quality and attributes of the proposal, including:

Resource RFP qualification criteria:

- Conforming bid to RFP requirements:
  - PPA or PSA
  - Project is not less than 5 MW
  - Is the project going to achieve a commercial operation date (COD) by December 2024 or 2025?
  - Located in IN, MI, OH or IL for Wind; or IN or MI for Solar and Supplemental Capacity Resources
- Threshold experience requirements:
  - Lead developer has experience with development, engineering, equipment procurement and construction of a project, within the United States or Canada, of the same technology type, and of a size equal to or greater than the Bidder's proposed Project.

Other requirements noted in the RFP are related to proposal completeness, which are noted to provide the evaluation team with sufficient information to conduct the evaluation.

After the proposals were screened, bids were then evaluated against economic evaluation criteria and non-price evaluation criteria. For the purposes of the economic evaluation criteria, I&M proposed capturing the overall cost of the proposed projects on a unitized and levelized per megawatt-hour (MWh), per megawatt (MW), and value to cost (revenue) basis to facilitate a cross-proposal comparison. The industry standard is to adopt an impact on revenue requirements basis to assess and determine the relative value to customers across the range of options presented. I&M's economic evaluation in this procurement process met this industry standard.

I&M's non-price evaluation criteria (as stated in RFP) included the following pertinent areas:

Asset-Specific Benefits and Risks: This area assesses operational factors associated with market exposure to market prices and the benefits that would accrue to the Company and its customers with respect to flexibility:

- Market prices and volatility due to uncertainty arising from term length
- Operational flexibility to meet supply requirements and optionality to accommodate future needs

Development Status and Risks: Evaluates upfront factors including the following:

- Land leases, permitting (local and federal), arrangements with equipment suppliers and contractors, project schedule, and interconnection arrangements
- Project timing and the likelihood that a project will be online in time to support the timing of near-term capacity needs identified in the Preferred Portfolio in I&M's IRP process

Environmental, Social, and Economic Impacts/Benefits: Under this criterion, I&M assess the following:

- Emissions reduction goal to achieve net zero carbon by 2050, with an interim target to cut emissions 80% from 2000 levels by 2030
- Environmental and wildlife impact and related permitting
- Indiana and Michigan economic stimulus benefits, community support, and supplier/contractor diversity

Proposal/Project Quality: This area assesses the bidder and exceptions:

- Bidder experience and financial wherewithal
- Exceptions to AEP generation facility design standards
- Exceptions to Form PSA and PPA

The areas noted above are in-line with typical utility practice, which seeks to distill the relative state of readiness of the projects proposed and the risks/impediments that each face toward COD.

The technical, operations, and maintenance criteria assessed the proposals from an ownership and operational standpoint to ensure quality, production certainty, interoperability, and ease of operations. This criteria also ensures that the project development team has considered the technical factors necessary to deliver a project that reliably delivers power and conforms to both industry and PJM standards for interconnection purposes. Prior experience in developing solar and wind facilities is a typical area reviewed by utilities to ensure that the developer is fully familiar with the requisite steps needed to take a project from the development stage through COD. Correspondingly, those that provide financing assess renewable energy developers similarly—on their track record and history. Obtaining financing during project construction is on the critical path toward meeting the COD.

As part of our RFP review, the team developed several recommendations for the RFP overview document, including reduction of minimum project capacity from 20 MW to 5 MW, removal of maximum storage duration of 8-hours, expansion of geographic scope of wind to include Ohio, and a procedure for the confidential disclosure of RFP bid results and analyses of RFP bid results to interested stakeholders that are not competitive entities. We were satisfied with these changes because I&M was responsive to our team's concerns. I&M issued the RFP on March 10, 2022.

3. Score Sheet Development

3.1. Economic Criteria

Prior to proposal receipt, a comprehensive levelized cost model was developed by I&M to compare proposals. The levelized cost model creates a unitized, discounted comparative figure to compare proposals on an equivalent cost basis. The generally accepted lens in the industry to facilitate comparisons between ownership and non-ownership options is from an impact to utility revenue requirements basis. Accordingly, all costs expected to impact the utility's revenue requirements are captured by year and discounted to year 0. In addition, I&M included the debt equivalence cost of PPAs and transmission congestion cost as determined by the Company's distribution or transmission congestion screening analysis.

The proposals were evaluated based on three levelized cost metrics:

1. Levelized Adjusted Cost of Energy (LACOE)
2. Levelized Adjusted Cost of Capacity (LACOC)
3. Value to Cost Ratio

For LACOE, the expected energy production, on a MWh basis, is equivalently discounted back to year 0. With the costs being the numerator and the energy output being the denominator, the quotient is a levelized $/MWh comparator. The LACOC is calculated by dividing the total cost by the present value of the proposal's installed capacity rating. The Value to Cost Ratio is the present value of all PJM revenue streams divided by total cost. These metrics are further illustrated in Figure 1 below.

Figure 1: Summary of Price Metrics

	Price Metric	Calculation	Scoring Metric
Phase 1	**Levelized Adjusted Cost of Energy (LACOE)**	$\frac{\text{PV of Total Cost}}{\text{PV of Proposal's Expected Lifetime Energy Output (MWh)}}$	First Composite Score for Wind and Solar
	Levelized Adjusted Cost of Capacity (LACOC)	$\frac{\text{PV of Total Cost}}{\text{PV of Proposal's Installed Capacity Rating (MW)}}$	First Composite Score for Supplemental Capacity Resources
Phase 2	**Value to Cost Ratio**	$\frac{\text{PV of Total Value}}{\text{PV of Total Cost}}$	Second Composite Score across all Resource Types

Source: I&M

To effectively compare the PSA proposals against PPAs in-line with the methodology adopted by many independent power producers (IPPs), the full value of the plant throughout its expected useful life was included in the modeling throughout the two-phase process noted above. I&M's approach includes projected operations and maintenance costs for the expected useful life of PSA projects. In comparison, under a PPA arrangement, after the agreement expires IPPs would sell their power through the market and utility market purchases would include the cost of such power, which is then passed through the supply charge to customers. To make the levelized cost equivalent, the model included the continued purchase of equivalent energy at market prices that would otherwise occur under

the PPA arrangement for the same period as the expected useful life of a PSA project. In capturing both the costs and benefits during the same time period of the two arrangements, the resulting levelized costs of the PSA and the PPA are more comparative and equivalent.

The CRA and I&M teams reviewed the mechanics of the spreadsheet and all assumptions related to the analysis prior to the proposal receipt for completeness and accuracy. Upon review, for a study period of 35 years, the teams found that the analysis accurately captures the impact to revenue requirements, both from a cost perspective and a value perspective, across the two eligible contract structures. CRA's view is that components included are reasonable and are in-line with similar practices conducted by other utilities when comparing utility-owned resources against third-party ownership.

3.2. Non-price Criteria

Based on the criteria noted in the RFP, I&M prepared a score sheet to facilitate the non-price evaluation. Pursuant to feedback provided by CRA, I&M added detailed scoring criteria based on a rating scale of 1 (lowest score) to 10 (highest score) for each evaluated criteria; these criteria specify what standard is required to be met by the proposers to achieve the stated score, shown in **Error! Reference source not found.**. Establishing these criteria prior to proposal receipt greatly enhances the overall transparency and fairness of the solicitation. In addition to defining the scoring criteria, CRA and I&M held a series of sessions to review the scoring criteria to ensure there was sufficient differentiation in the definition of the scores as they applied to each non-price criteria.

Table 3: Non-price Scoring System

Score	Description
10	Excellent. The proposal exhibits high quality or value, results in the least impacts, with limited risk of delivery, and/or significant benefits to I&M customers.
9	
8	Good. The proposal exhibits characteristics of both the satisfactory and excellent rating characterizations.
7	
6	Satisfactory. The proposal generally meets industry standards for quality, reliability, with typical/moderate impacts/benefits, or imparts moderate risk for successful project delivery.
5	
4	Less than satisfactory. The proposal exhibits characteristics of both the satisfactory and poor rating characterizations.
3	
2	Poor. The proposal exhibits low quality, high impacts, limited benefits, and/or significant increased risk to successful project completion.
1	

Source: I&M

As part of the development of the evaluation process, the I&M team established the relative weighting of the solicitation across the overall economic and non-price criteria as well as the subcomponent weighting of the areas evaluated under the non-price criteria. Under the bid rules, the combined scoring between the economic and non-price criteria establishes the rank-order list for final selection.

4. Proposal Receipt and Proposal Qualification

4.1. Prior to Proposal Receipt

Through a press release, I&M directed interested bidders to subscribe and monitor the RFP website for access to RFP events. I&M made all documentation and information related to the RFP available on the PowerAdvocate site. In addition, CRA sent out a direct communication to known stakeholders including interested parties.

Throughout the solicitation process, I&M received comments and questions from the interested parties and respondents through the RFP email address and posted answers to the RFP website.

4.2. Proposal Receipt

On the proposal due date of April 21, 2022, the following submissions were received:

Table 4: Received Proposal Submissions

Proposal Type	Number of Unique Bidders	Number of Proposals
Wind Resources	3	3
Solar Resources	6	11
Solar + Storage	5	7
Wind + Solar + Storage	1	1
Supplemental Capacity Resources	4	10
Total	12	32

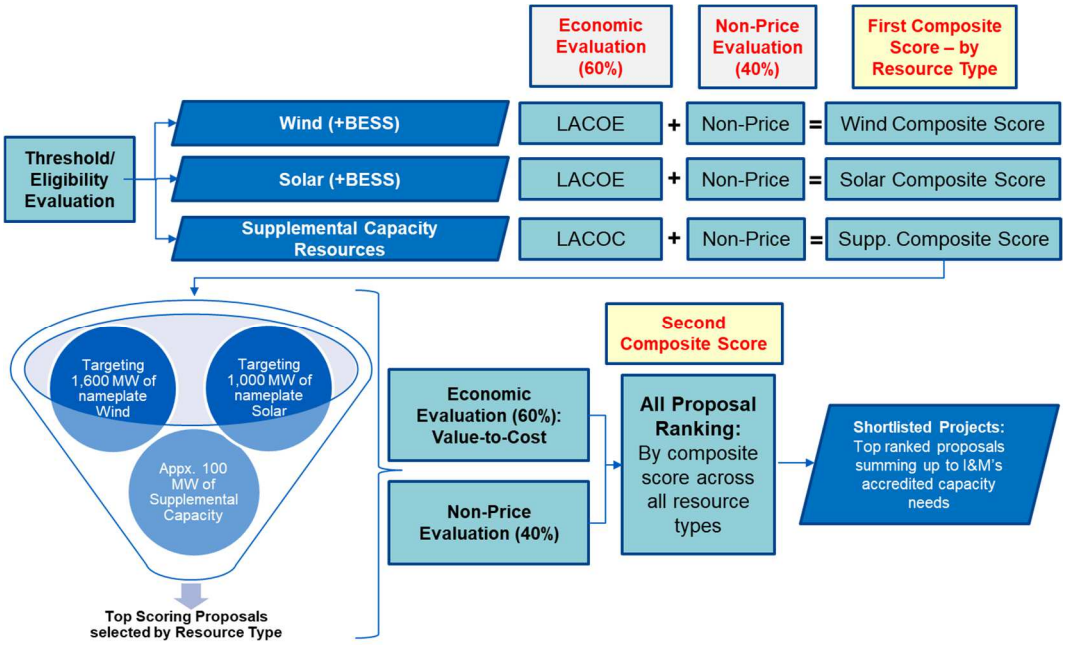
Source: CRA

The information made available by the respondents via email was available to both the I&M and CRA team for evaluation purposes.

4.3. Evaluation Process

Pursuant to the RFP, the evaluation was a multistage process including an eligibility and threshold screening stage and a detailed economic and non-price evaluation stage. Figure 2 illustrates the flow of work through the evaluation process.

Figure 2: Flowchart of the Evaluation Process



Source: I&M

4.4. Proposal Threshold Screening

Under the eligibility and threshold evaluation stage, proposals were assessed for compliance with the initial qualifying eligibility and threshold criteria established under the RFP. Conditions of the eligibility and threshold screening are illustrated in Table 5.

Table 5: Eligibility and Threshold Requirements

Category	Condition
Agreement Type	PSA or PPA
COD Date	By 12/15/2024 or 12/15/2025
Minimum Nameplate	5 MW-AC
Location	IN, MI, OH or IL for Wind; or IN or MI for Solar and Supplemental Capacity Resources
Interconnection Status	PJM SIS; or MISO Final DPP SIS, Facilities Study, and Firm Transmission into PJM; or I&M DIS
Site	Established Control
Equipment	Approved Vendors and Utility Grade Equipment
Resource Information	Completed Required Studies
Design Life	30 years for Wind and Solar; Minimum 15 Years for Supplemental Capacity Projects

Bidder Experience	Development, engineering, equipment procurement and construction of a project, within the United States or Canada, of the same technology type, and of a size equal to or greater than the Bidder's proposed Project; Financial Information.
Exceptions to Form PPA/PSA	Complete and, considered individually or in the aggregate, minimally acceptable to I&M as a basis for further discussions.
Exceptions to Gen. Facility Standards	Detailed exceptions, if any, to the applicable AEP Generation Facility Standard and Scope of Work.

Source: I&M

As noted above, evaluation of all proposals proceeded while bidders were given a reasonable opportunity to clarify statements or provide missing information related to the threshold screening criteria. CRA independently conducted the eligibility and threshold evaluation of proposals. After thorough review of the proposals, 20 proposals met the threshold requirements and 12 proposals did not, as follows:

- One (1) solar proposal and three (3) solar plus storage proposals were not compliant with the interconnection status requirement.
- Six (6) of the supplemental capacity projects were located in MISO and did not have firm transmission rights;
- One (1) supplemental capacity project did not meet location requirements (Illinois);
- One (1) other proposal for Wind and Solar plus Storage did not pass due to non-conformance with a number of proposal submittal requirements and threshold eligibility criteria, including the location requirement and the proposed COD date.

CRA communicated the results of its independent review to I&M. Proposals that met the eligibility and threshold requirements of the RFP were advanced to the non-price and economic evaluation phase of the evaluation process conducted by I&M with oversight by CRA.

4.5. Non-Price Evaluation

The purpose of the non-price evaluation is to assess whether the bidder's proposed project meets certain quality standards, can reliably be constructed within the required timeframe, considers impacts to the environment and local communities, benefits the local economy, and can provide additional value to I&M's customers. Overall, the non-price evaluation highlights potential risks and benefits of the proposed project that are not readily quantified in the pricing evaluation, and allows for consideration of these factors in the bid evaluation process. The non-price factor evaluation represents 40% of the total score of a bidder's proposal.

Scoring of the non-price criteria was performed in accordance with section 3.2 above. Subject matter experts at I&M for each of the representative non-price criteria performed the detailed analysis of the proposals in accordance with the developed scoring methodology and presented the results to CRA. CRA reviewed the outputs of the scores as performed by I&M and flagged issues to ensure consistency. In response to our recommendations, I&M updated the evaluation where necessary to ensure consistency in the evaluation. CRA reviewed and agrees with the final non-price evaluation results that were used as a basis for the final shortlist determination. Note that the non-price score was used in two phases of the evaluation:

- The first phase, which compares like resource types (Wind, Solar and Other Capacity Resources) relative to each other.

- The second phase which compares all resource types relative to each other.

Note that Phase 1 did not serve as a filter as originally intended due to the fact that the number of proposals were below the higher targeted amount shown in Figure 2. Therefore, all proposals which passed the initial screening were evaluated as part of the Phase 2 detailed modeling.

4.6. Economic Evaluation

The purpose of the economic evaluation is to assess where a project ranks in terms of its financial value to I&M's customers as compared to its cost. The economic evaluation represents 60% of the total score of a bidder's proposal.

There were two phases to the economic evaluation:

- The first phase compares the relative economics of the same resource types (Wind, Solar and Other Capacity Resources). The basis of comparison was LACOE for Solar and Wind, and LACOC for Other Capacity Resources.
- The second phase which compares all resource types. The basis of comparison was the Value-to-Cost ratio.

A team from I&M convened to review the economic criteria. This team consisted of I&M's subject matter experts experienced in financial modeling and those who prepared the financial models for proposal cost inputs. Key parameters for evaluation consisted of the cost metrics described in section 3.1 above. I&M provided the resulting scoring to CRA. CRA evaluated the financial model underpinning the economic analysis independently, the common assumptions, and the specific bid inputs used for each proposal. The approach and results for both Phase 1 and 2 were reasonable.

In the more detailed evaluation conducted in Phase 2, CRA evaluated the financial model underpinning the economic analysis independently and were comfortable with the final results. The key components of the model are project cost and beneficial value. The buildup of the project costs includes capital, O&M, taxes, depreciation, and debt equivalence adder, in addition to the cost of transmission congestion and losses. The buildup of the project value includes avoided cost of market energy, capacity, and Renewable Energy Credits (RECs), levelized. The ratio between the NPV of the project value and the NPV of the project cost, the "value-to-cost" ratio, was used as the comparator between proposals. From CRA's perspective, the approach taken in the modeling is similar to typical utility practices. Accordingly, CRA agrees with the final price evaluation results that were used as a basis for the final shortlist determination.

4.7. Final Shortlist Development

Proposals were ranked according to their combined score reflective of the economic and non-price evaluation. The top-ranking proposals were considered for shortlisting. I&M proceeded down the list in order of ranking until a sufficient and reasonable number of proposals that would satisfy procurement objectives were selected to advance to the final shortlist stage for negotiation and execution.

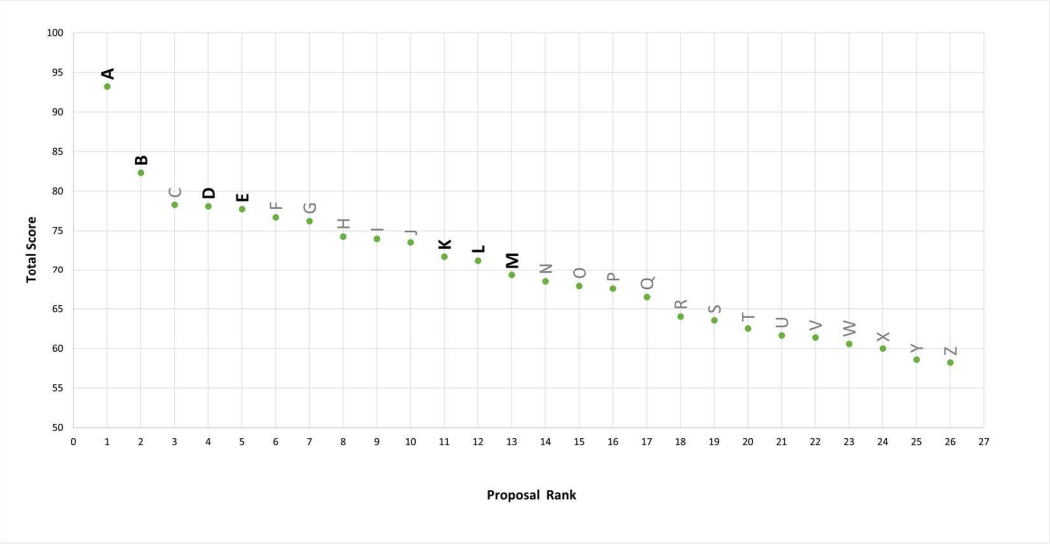
- [redacted]

[redacted]

- In certain instances, multiple proposals were advanced for the same project, which reflected options such different COD dates, term lengths, contract type, etc. I&M generally selected the mutually exclusive option that had the highest overall score. In one case, bid scores between options were comparable with minor differentiation, however, I&M exercised judgement in selecting the lower capacity storage option given broader concerns regarding operational risks and project feasibility.

Based upon the final combined scoring, a combination of PPA and PSA projects were shortlisted to proceed to final negotiations. Figure 3 below shows the rank order of the combined scoring by proposal, with the selected bids noted in **bold** lettering. Selected proposals received higher evaluation scores given their respective ratings in the economic and non-price criteria, which indicate they are of higher relative quality and are competitively priced.

Figure 3: Proposal Ranking and Selection



Source: I&M

4.8. Results

A combination of PPA and PSA proposals have been selected to proceed to final negotiations. These proposals received high evaluation scores given their respective ratings in the economic and non-price criteria, indicating that the selected projects have low development risk and are competitively priced. I&M selected the following proposals, which represent the least risk and relative cost to the company (list not in rank order):

- Lightsource BP, Winamac (Mayapple) Solar 245 MWac, Ownership, COD Y2025
- Savion Elkhart County 100 MWac Solar, 30 year PPA – COD Y2025
- Renewables Lake Trout Solar 245 MWac, Ownership Transfer – COD Y2025
- Gridflex Generation - Montpelier, 20 yr PPA for Capacity – COD Y2025 (Existing)
- EDF Renewables Sculpin Solar, 180 MWac, 30 year PPA – COD Y2025

[redacted]

[redacted]

5. Conclusion

The following is CRA's independent assessment of whether the goals of the RFP were achieved and assessment of the RFP process conducted by I&M:

- Our overall assessment is that the goals of the RFP were achieved and the RFP was competitive with 12 respondents that submitted 32 total proposals.
- The RFP documentation was developed in a clear and transparent manner. The products sought were well defined. The evaluation criteria were indicated clearly in the RFP documentation. Detailed information regarding how I&M would conduct both the economic and non-price evaluation was provided in the RFP.
- The qualification evaluation was performed on a fair and consistent basis using the process noted in the RFP. Initially excluded respondents were given an opportunity to cure their deficiencies within a short but reasonable period of time, which helped maintain the range of proposals evaluated and the competition between them.
- The evaluation stage, including the economic and non-price evaluations, was performed on a fair and consistent basis with the process noted in the RFP. Use of LACOE, LACOC, and Value-to-Cost Ratio as the basis for scoring on price is reasonable and typical, as is the underlying methodology used to equate, from a revenue requirements standpoint, proposal options (PSA) that result in I&M ownership of the facilities against PPA options.
- Using a score sheet and scoring guide for the non-price criteria scoring is also reasonable and typical. The final range of rating guidelines is reasonable and consistent with similar criteria we have developed or observed. The CRA team had an opportunity to review and comment on the scoring criteria, and I&M adopted the recommendations we proposed to our satisfaction. I&M subject matter experts that performed the evaluation and scoring, overseen by CRA, were consistent in their approach. The combined scoring and ranking using a weighting between economic/non-price criteria is reasonable.
- The advancement of a significant number of wind, solar, and capacity resources, as applicable, through the evaluation process was reasonable and demonstrated an effort on the part of I&M to ensure a competitive solicitation.
- Selection of finalists was also performed on a fair and consistent basis with the process published in the RFP.
- Based on our review and observations, there is no evidence that the evaluation and selection process caused any unfair advantage or disadvantage to any interested party or respondent.

CRA Charles River Associates

D. Dean Koujak

Principal

Juris Doctor
Hofstra University

MBA
Stony Brook University

BS, Engineering Management
New York Institute of Technology

Mr. Dean Koujak is a principal in the energy practice of CRA. Dean provides energy market and procurement advisory services to utilities and other stakeholders in the electric power industry. Prior to joining CRA, Dean was a Director in the Energy Practice of Navigant, which was later acquired and rebranded as Guidehouse, Inc. Throughout his career, he served as a consultant to Utilities and other stakeholders in the industry advising on procurement, large scale renewable development, renewable portfolio standards compliance, utility business strategy, decarbonization pathways, transmission infrastructure planning, grid modernization, non-wires solutions, power markets matters (NYISO/PJM/ISO-NE/MISO), energy efficiency program implementation, utility contract negotiations, electric resource planning, regulatory compliance strategy, M&A and industry litigation. He has managed multiple key utility initiatives throughout all stages of the projects including planning, design, implementation and execution. Over time, he has enabled electric utilities to successfully plan, evaluate, select, and contract over 10 GW of capacity from thermal, renewable, storage and demand response resources. He has supported and been engaged on competitive power procurement and electric market matters across the U.S. and Canada. Dean is highly qualified in independent procurement oversight and implementation and has served in a variety of capacities in this regard including as an independent evaluator, administrator, independent monitor, and independent observer. In addition, he has developed regulatory filings and reports submitted before Public Utility Commissions on matters pertaining to resource procurement, in addition to distributed energy resources, renewable portfolio standards, rate design, non-wires alternatives and utility organizational modernization.

Summary of Expertise

- ***Power Resource Procurement and PPA Negotiations*:** Renewable and conventional resource procurement advisory services to facilitate an optimal solicitation design, evaluation, final selection, and PPA/contract negotiation process. Served as both an expert advisor and independent evaluator/monitor.
- ***Energy Efficiency & Renewables:*** Energy efficiency and renewables program planning and implementation.
- ***ISO Market Expertise:*** Advisory relating to ISO market rules, including interconnection, market pricing, resource retirement/additions forecasting, and reliability/public policy driven needs.
- ***Regulatory and Compliance:*** Development of regulatory filings and testimony related to renewables policy, resource procurement, and energy efficiency.

- ***Resource Planning and Strategy:*** Comprehensive evaluation of resource options to meet reliability driven needs in addition to meeting renewable portfolio standards. Evaluated pathways to achieve aggressive GHG and RPS targets.
- ***Grid Modernization:*** Options to enhance the distribution grid and ability to interconnect/dispatch a diverse array of Distributed Energy Resources (DERs).
- ***M&A Due Diligence:*** Utilities and renewables acquisition advisory.
- ***Expert Testimony:*** Provided expert testimony on behalf of clients in disputes relating to the areas of expertise noted above.

Selected Consulting Experience

Procurement

- **AEP I&M 2022 All-Source RFP –** Served as Independent Monitor for I&M's All Source solicitation.
- **Indiana EVSE Consortium RFP –** Developed RFP and served as Independent Administrator/RFP Manager for an RFP seeking electric vehicle supply equipment (Level 3 DC Fast Chargers).
- **Arizona Public Service 2020 All-Source RFP –** Served as Independent Monitor for APS's All Source solicitation.
- **Xcel/Southwestern Public Service Generating Resources RFI (All-Source) –** Served as Independent Evaluator for an RFI geared towards identifying potential replacement generation options for a Coal-fired power plant.
- **Xcel Sherco RFP** – Served as Independent Auditor on the RFP for 500 MW of Solar.
- **DTE Energy 2019 All-Source RFPs for Wind and Solar Resources –** Provided expert procurement advisory, monitoring and evaluation to DTE in its 2019 All-Source RFP.
- **Independent Observer of the Maui Electric Company RFPs –** Appointed by the Hawaii Public Utilities Commission to serve, over the course of 4 years, as an Independent Observer. Covered two RFPs for Variable Dispatchable Renewable Generation and PPA negotiations.
- **Arizona Public Service 2019 Solar plus Storage RFP, Battery-Ready Solar RFP –** Served as the Independent Monitor on the RFP for approximately 100 MW of Solar plus Storage (4 hour).
- **American Electric Power 2017 RFP for Solar –** Served as the Independent Evaluator of the AEP 2017 RFP for Solar.
- **NYPA Large Scale Renewable RFP I and II –** Supported NYPA in the development of the RFP, management and evaluation of utility-scale renewable proposals (Wind, Solar), including those with Storage combinations, to comply with the CES.

- **NJ SREC-II Based Financing Program –** On behalf of Jersey Central Power & Light, Atlantic City Electric, and Rockland Electric Company, served as the Solicitation Manager of the SREC-II program – a competitive solicitation offering a 10-year SREC PSA for competitively bid projects.
- **CIC/SaskPower CCGT 2019 RFP –** On behalf of the Crown Investments Corporation of Saskatchewan, served as the Value for Money independent advisor for a Combined Cycle Generating facility.
- **Battery Storage Procurement Analysis –** On behalf of a manufacturer in the Ontario region, assessed contracting options and performance of battery storage technologies, and the unsolicited proposals received.
- **ConEd BQDM Reverse Auction –** Advised in the designed, development and implementation of a reverse auction for demand response as a non-wire alternative.
- **2010 LIPA Generation and Transmission RFP** – Advised on the development, design and evaluation of an "All-Source" style resource RFP which assessed a wide range of resource options proposed to LIPA, including HVDC Transmission, combustion turbine generation, hydro energy imports, off-shore wind farms, and battery storage.
- **FirstEnergy Ohio REC Compliant RFP** – From 2011 to 2019, served, annually, as the independent RFP manager on behalf of the FirstEnergy Ohio Utilities to procure their annual RPS requirements for Non-Solar and Solar RECs.
- **New York Power Authority 100-MW Solar Initiative RFP** – Provided advisory services on the development and evaluation of the RFP.
- **Massachusetts DOER Solar Stimulus Program RFP for Wastewater Facilities** – Provided assistance in the development of the RFP to design, build and install Solar Photovoltaic systems located on 12 town wastewater facilities ("Participants") in Massachusetts.
- **Natural Gas Supply RFP/Fuel Management RFP** – Developed an RFP to procure and manage 54,000 Dthms of Natural Gas and backup oil for a large CCGT on behalf of a Utility.
- **Duke Carolinas Solar RFP** – Advised on the development and evaluation of the Solar RFP.
- **LIPA Solar Photovoltaic RFP** – Served as PMO and performed the economic evaluation of a procurement of 50 MWs of Solar Photovoltaic energy projects.
- **LIPA Renewable Energy RFP** – Served as PMO and performed the economic evaluation of a procurement of 325 GWhs of Energy and RECs from qualified resources that are capable of delivering to NYISO Zone K.
- **LIPA Power Supply Management RFP** – Provided assistance in the management of a procurement that competitively bid the front-office and back-office power supply management services.

- **LIPA 600 MW Generation Capacity RFP** – Advised on the development and execution of a qualitative evaluation and economic assessment relating to the procurement of generation and transmission resources both within the ISO zone and externally connected via transmission.
- **RFP for Temporary Generation** – Assisted in the management and evaluation of the procurement of mobile generation units to fill a capacity shortfall expected in the summer of 2004.
- **LIPA 2005 Capacity RFP** – Assisted in the management and evaluation of an RFP for flexible resources.
- **LIPA Energy Efficiency RFPs** – Served as PMO, developed and evaluated the response to several energy efficiency RFPs for EM&V, implementation and direct install services.

Energy Efficiency & Renewables

- **Hawaii Big Wind Whitepaper –** Developed a technical report relating to the implementation of an HVDC transmission and Wind project on behalf of the State.
- **Energy Efficiency Project Management** – Served as a project manager and coordinator of a comprehensive energy efficiency initiative for a northeast public electric utility geared specifically to reduce Peak Energy Load.
- **Solar Regulatory Support**— Reviewed the economics of the proposed 137 MW solar project through an analysis of the PPAs between a solar developer and the Southern California Public Power Authority.
- **Independent Review of Wind Projects**— Assessment of rate recovery issues relating to 6 wind PPAs as it pertained to subsequent amendments.

ISO Market Expertise

- **Transmission Siting Review** – On behalf of multiple clients, reviewed the NYISO Transmission System and identify key markets and interconnection points that address transmission congestion issues noted in the NYISO's Reliability Needs Assessment.
- **NYISO Stakeholder Meetings** – On behalf of multiple clients, monitored changes and developments among the various planning working groups.
- **Market Advisory –** Led development of LBMP nodal price forecasts, capacity price forecasts, generator retirement forecasts, and renewable project development tracking.

M&A Due Diligence

- **M&A Target Due Diligence –** Develop list of targets and profiles for a confidential firm seeking to acquire a company within the electric power industry.
- **Hydro Asset Due Diligence** – On behalf of a large investment firm in Canada, conducted due diligence into a potential acquisition of a legacy hydro-electric asset. Led review of potential contracting options and offtakes in the region, summarizing the options and relative negotiating position of the project owner after its current offtake agreement expires. Reviewed project agreements for potential risks for consideration

- **Battery Storage Project Acquisition Due Diligence –** On behalf of a multinational investment firm, conducted due diligence on the risk factors associated with the agreements executed by a project developer. In the context of market intelligence, reviewed offtake agreements, EPC contracts, Long-Term Service Agreements and letters/expressions of interest from potential offtakes.
- **T&D Utility M&A Target Due Diligence –** On behalf of a confidential client, performed a market screening of potential T&D Utility targets in North America based on criteria that fit the client's acquisition strategy.

Regulatory and Compliance

- **PSEG LI Utility 2.0 Plan –** Managed the development of the Utility of the Future and Rates Modernization components of the PSEG LI filing, as accepted by the NY DPS.
- **ConEd/National Grid Whitepaper –** Under the NY DPS proceeding which ultimately established the NY Clean Energy Standard, developed a whitepaper and comments to NY PSC staff with respect to the optimal procurement strategies and structures for meeting the 50% by 2030 renewable target.
- **Hawaii DBEDT PUC Filing –** In support of the development of an undersea HVDC cable to enable the development of Wind power, provided DBEDT with technical comments and input with respect to the cable configurations, technical feasibility with respect to cable permitting/routing and economic impact with respect to the cable (in stand-alone configuration) and in combination with a wind power project.
- **ATCO Fort McMurray 500 kV Transmission Project Analysis –** Led analysis of cost of compliance and probabilistic assessment of potential failure to meet performance standards for a proposed transmission project.
- **NYPA NERC CIP Compliance –** Provide ongoing project management assistance to NYPA with respect to NERC standards compliance in the areas of Physical Security Protection and Compliance Repository requirements.
- **NYPA Business Controls Group Policy & Procedures –** Develop framework, organization and template for the New York Power Authority's initiative to organize, catalogue and update its corporate policies.
- **NYPA Emergency Management –** Develop comprehensive recommendations to benchmark, update, integrate and formalize NYPA's Emergency Management program.
- **Connecticut Net-Metering Legislation** – For an industry stakeholder, drafted proposed revisions to the current net metering legislation to expand its limits and applicability.
- **FirstEnergy Ohio REC Pricing –** Prepared an expert report discussing the Ohio SREC and REC markets with comparisons to regional markets.

Resource Planning

- **Resource Planning Coordinating Committee ("RPCC") support –** Provided long-term support (10+ years) to the Long Island Power Authority's Resource Planning committee from a technical, economic and feasibility modelling perspective.

- **Bahama Ocean Cay Island Power Options Analysis –** Directed an engagement to develop an electric resource plan for a cruise island destination.
- **NALCOR Hydro** – Participated in an independent review of NALCOR's analysis relating to the Muskrat Falls Hydro and Labrador Link HVDC project.

Grid Modernization

- **REVConnect –** Led the development of the online platform available at nyrevconnect.com helping utilities source ideas and solutions from the marketplace through a formal procurement-style process that screens and fosters the most promising opportunities that pass established screening criteria.
- **Southern California Edison Integrated Grid Project (IGP) –** Provided project management assistance on demonstration project intended to showcase advanced grid technologies in response to California legislation and policy directives under AB327.
- **Southern California Edison Distribution System Technology Assessment & Business Strategy Review –** Organized and lead the review of over 50 distribution technologies for review and implementation consideration.

Professional history

2021-Present	Charles River Associates, Principal, Energy
2003–2021	Navigant Consulting, Inc./Guidehouse, Inc.
	2018 – 2021 *Director*, Energy, Sustainability, and Infrastructure Practice
	2015 – 2018 *Associate Director*, Energy Practice
	2009 – 2015 *Managing Consultant*, Energy Practice
	2007 – 2009 *Senior Consultant*, Energy Practice
	2005 - 2007 *Consultant*, Energy Practice
	2003 - 2005 *Analyst/Associate*, Energy Practice

STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the application of INDIANA MICHIGAN POWER COMPANY for approval of its integrated resource plan pursuant to MCL 460.6t, avoided costs and for other relief.	)))))	Case No. U-21189

PROOF OF SERVICE

Karlene K. Zale, an employee of Dykema Gossett PLLC, being first duly sworn, deposes and says that on the 20th day of July, 2023, she served the Direct Testimony of D. Dean Koujak on behalf of Indiana Michigan Power Company upon on the following parties via the email addresses indicated:

PUBLIC

Administrative Law Judge:	**Citizens Utility Board of Michigan (CUB):**
Christopher Saunders saundersc4@michigan.gov	Christopher M. Bzdok Breanna Thomas Jill Smigielski Karla Gerds Kimberly Flynn chris@envlaw.com kimberly@envlaw.com karla@envlaw.com breanna@envlaw.com jill@envlaw.com

CONFIDENTIAL

Administrative Law Judge:	**Attorney General's Office:**
Christopher Saunders saundersc4@michigan.gov **Staff:** Nicholas Q. Taylor Naomi Simpson Alena Clark taylorn10@michigan.gov SimpsonN3@michigan.gov clarka55@michigan.gov	Michael Moody Christopher Bzdok Douglas Jester Amanda Churchill chris@envlaw.com moodym2@michigan.gov djester@5lakesenergy.com ChurchillA1@michigan.gov ag-enra-spec-lit@michigan.gov

Karlene K. Zale

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