FILED September 15, 2023 INDIANA UTILITY REGULATORY COMMISSION

#### **STATE OF INDIANA**

#### INDIANA UTILITY REGULATORY COMMISSION

VERIFIED PETITION OF INDIANAPOLIS POWER &	)
LIGHT COMPANY D/B/A AES INDIANA ("AES	)
INDIANA") AND AES PIKE COUNTY ENERGY	)
STORAGE, LLC FOR (1) APPROVAL OF A STAND-	)
ALONE BATTERY ENERGY STORAGE SYSTEM	)
<b>PROJECT AT PETERSBURG STATION ("PIKE COUNTY</b>	)
<b>PROJECT"), INCLUDING A JOINT VENTURE</b>	)
STRUCTURE BETWEEN AN AES INDIANA	)
SUBSIDIARY AND ONE OR MORE TAX EQUITY	)
PARTNERS AND A CAPACITY AGREEMENT AND	)
CONTRACT FOR DIFFERENCES BETWEEN AES	)
INDIANA AND THE AES SUBSIDIARY PROJECT	)
COMPANY THAT HOLDS THE PIKE COUNTY	)
PROJECT, AS A CLEAN ENERGY PROJECT AND	)
ASSOCIATED TIMELY COST RECOVERY UNDER IND.	)
CODE § 8-1-8.8-11; (2) APPROVAL OF ACCOUNTING	)
AND RATEMAKING FOR THE PIKE COUNTY	) CAUSE NO. 45920
<b>PROJECT, INCLUDING AN ALTERNATIVE</b>	)
PROJECT, INCLUDING AN ALTERNATIVE REGULATORY PLAN UNDER IND. CODE § 8-1-2.5-6 TO	)
PROJECT,INCLUDINGANALTERNATIVEREGULATORY PLAN UNDER IND. CODE § 8-1-2.5-6 TOFACILITATE AES INDIANA'S INVESTMENT IN THE	) ) )
<b>PROJECT,INCLUDINGANALTERNATIVEREGULATORY PLAN UNDER IND. CODE § 8-1-2.5-6 TOFACILITATE AES INDIANA'S INVESTMENT IN THEPROJECT THROUGH A JOINT VENTURE; (3)</b>	) ) )
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#### INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR

#### PUBLIC'S EXHIBIT NO. 1

#### **REDACTED TESTIMONY OF OUCC WITNESS JOHN W. HANKS**

**SEPTEMBER 15, 2023** 

Respectfully submitted,

T. Jason Haas Deputy Consumer Counselor Attorney No. 34983-29

#### **TESTIMONY OF OUCC WITNESS JOHN W. HANKS** CAUSE NO. 45920 INDIANAPOLIS POWER AND LIGHT COMPANY D/B/A AES INDIANA AND AES PIKE COUNTY ENERGY STORAGE, LLC

#### I. INTRODUCTION

1	Q:	Please state your name and business address.
2	A:	My name is John W. Hanks, and my business address is 115 W. Washington St.,
3		Suite 1500 South, Indianapolis, Indiana 46204.
4	Q:	By whom are you employed and in what capacity?
5	A:	I am employed as a Utility Analyst in the Indiana Office of Utility Consumer
6		Counselor's ("OUCC") Electric Division. A summary of my educational
7		background and experience is included in Appendix A attached to my testimony.
8	Q:	What is the purpose of your testimony?
9	A:	I introduce other OUCC witnesses, describe Indianapolis Power and Light
10		Company d/b/a/ AES Indiana's ("Petitioner") request for the Commission to
11		approve the development and operation of a battery energy storage system ("Pike
12		County Energy Storage Project," "Pike County BESS Project," or "Pike Project"),
13		and address certain concerns the OUCC has with the Pike Project. The OUCC does
14		not oppose approval of the Pike Project if certain recommendations are adopted.
15		Specifically, the OUCC recommends a cost cap on the project, a decommissioning
16		plan, and project augmentations to address safety issues and long-term value.

1 2	Q:	Please describe the review and analysis you conducted in order to prepare your testimony.
3	A:	I reviewed Petitioner's case-in-chief and the Workpapers of Petitioner's witnesses
4		Erik Miller, Chad Rogers, and Danielle Powers. I reviewed Petitioner's responses
5		to data requests and portions of the 2022 Integrated Resource Plan ("IRP"). I
6		reviewed the final order related to the previously approved Petersburg Project in
7		Cause No. 45591. I also participated in tech-to-tech calls with OUCC and AES
8		Indiana staff on Wednesday, August 23, 2023, and Thursday, August 31, 2023.
9 10	Q:	To the extent you do not address a specific item in your testimony, should it be construed to mean you agree with Petitioner's proposals?
11	A:	No. My silence on any topics, issues, or items Petitioner proposes does not indicate
12		my approval of these topics, issues, or items. Rather, the scope of my testimony is
13		limited to the specific topics discussed herein.
14 15	Q:	Please describe the additional OUCC witnesses providing testimony in this proceeding and the issues they are addressing.
14 15 16	<b>Q:</b> A:	Please describe the additional OUCC witnesses providing testimony in this proceeding and the issues they are addressing. The other OUCC witnesses are:
14 15 16 17	<b>Q:</b> A:	Please describe the additional OUCC witnesses providing testimony in this proceeding and the issues they are addressing.The other OUCC witnesses are:• Roopali Sanka:Ms. Sanka describes the Pike Project's technical
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14 15 16 17 18 19 20 21 22 23 24	<b>Q:</b> A:	<ul> <li>Please describe the additional OUCC witnesses providing testimony in this proceeding and the issues they are addressing.</li> <li>The other OUCC witnesses are: <ul> <li>Roopali Sanka:</li> <li>Ms. Sanka describes the Pike Project's technical specifications and the major terms of the Engineering, Procurement, and Construction ("EPC") agreement. Her testimony addresses issues pertaining to safety and long-term value, while recommending a decommissioning plan.</li> <li>Brittany Baker: Ms. Baker describes the structure of the Joint Venture, the proposed accounting and ratemaking treatment, and rate impacts for the Pike Project. In her testimony, she specifically recommends a firm cost cap on the project, including carrying costs, to protect customers from further increasing</li> </ul> </li> </ul>

#### II. <u>PETITIONER'S REQUEST</u>

1	Q:	Describe Petitioner's request in this Cause.
2	A:	AES Indiana requests approval of:
3		1. The Pike County BESS Project as a Clean Energy Project, including the EPC
4		agreement and a joint venture structure between one or more TEPs and an AES
5		Indiana subsidiary that will own the BESS;
6		2. A capacity agreement and CfD between AES Indiana and the AES Indiana
7		subsidiary that will own the Pike County BESS Project;
8		3. Associated timely cost recovery under Indiana Code § 8-1-8.8-11; and,
9		4. An alternative regulatory plan for AES Indiana's investment in the Pike Project
10		through a joint venture and deferral and subsequent recovery of Project
11		Development Costs consistent with Ind. Code § 8-1-2.5-6 and Ind. Code § 8-1-
12		8.8-11. <sup>1</sup>
13		Petitioner also requests the Commission decline to exercise jurisdiction over the
14		joint venture, including AES Pike County Energy Storage, LLC, as a public utility
15		pursuant to Ind. Code § 8-1-2.5-5. <sup>2</sup> Finally, Petitioner requests the Commission find
16		the Project does not fall under Ind. Code § 8-1-8.5-2, which requires public utilities
17		to obtain a CPCN before the construction, purchase, or lease of a facility for the
18		generation of electricity. If the Commission finds the Pike County BESS Project

<sup>1</sup> Petition, Paragraph 8. <sup>2</sup> *Id.*, Paragraph 9.

1		falls under Ind. Code § 8-1-8.5-2, as an alternative, AES Indiana requests the
2		Commission issue a CPCN for the development of the Pike County BESS Project. <sup>3</sup>
		III. <u>AES INDIANA 2022 IRP</u>
3 4	Q:	Is Petitioner's request consistent with the short-term action plan enumerated in its 2022 IRP?
5	A:	Yes. The short term action plan includes "200-240 MW ICAP [Installed Capacity]
6		of battery energy storage at Petersburg to fill winter capacity position in 2025."4
7		The IRP identified a winter capacity deficit of 280 MW in 2025. <sup>5</sup> This project
8		would meet 200 MW ICAP of this need and, since the IRP was issued, the
9		Midcontinent Independent System Operator ("MISO") has increased the planning
10		reserve margin requirement for the winter season by approximately 4%. This
11		increases the winter capacity deficit identified in the IRP. <sup>6</sup> The Pike Project is
12		consistent with the short-term action plan from Petitioner's most recent IRP.
13		However, I disagree with how the Pike Project is presented in comparison to how
14		battery projects were presented in the 2022 IRP.
15 16	Q:	How are battery energy storage systems valued relative to resources that generate electricity?
17	A:	The price and value of an electricity generator is typically provided by the total

- overnight capital costs ("OCC," \$/kW) to construct the facility, together with the 18 levelized cost of energy ("LCOE", \$/kWh) which reflects the total cost to build and 19 20 operate the facility in terms of each kilowatt hour of energy produced. As the Pike
  - <sup>3</sup> *Id.*, Paragraph 11.
  - <sup>4</sup> Miller Direct, Attachment, EKM-1, p. 256.
    <sup>5</sup> *Id.*, p. 8, lines 15-17.

<sup>&</sup>lt;sup>6</sup> Miller Direct, p. 10, Figure 1.

#### Public's Exhibit No. 1 HIGHLIGHT INDICATES CONFIDENTIAL MATERIAL" Cause No. 45920 "Excluded From Public Access Per A.R. 9(G)." Page 5 of 12

	County BESS Project will not produce electricity, the LCOE is not the preferred
	indicator of cost; however, OCC costs are still widely used in the industry. In place
	of the LCOE, battery systems are assigned a levelized cost of storage ("LCOS"),
	which reflects the total cost to build and operate the facility in terms of each
	kilowatt of energy discharged. Petitioner used the U.S. Department of Energy's
	LCOS calculator to determine the LCOS for the Pike County BESS project as well
	as for battery storages projects in Petitioner's 2022 IRP. <sup>7</sup>
Q:	How does the Pike County BESS Project compare to the battery resources modeled in AES Indiana's 2022 IRP?
A:	In the 2022 IRP, the base OCC cost for battery storage projects, including tax
	credits, was estimated to be \$1,047/kW and the LCOS was \$91.14/MWh.8 The
	OCC for the Pike Project is estimated to be and the LCOS is
	.9 However, it is not reasonable to compare the LCOS for the Pike
	Project to the 2022 IRP price referenced above. To show the OCC and LCOS for
	battery storage projects as used in the 2022 IRP, Petitioner submitted confidential
	workpaper EKM-2. The calculations for the Pike project can be found in
	confidential workpaper EKM-3.
	Q: A:

<sup>&</sup>lt;sup>7</sup> Direct Testimony of Erik Miller, p. 22, lines 1-2.
<sup>8</sup> Id., p. 20, line 9 and p. 22, line 17.
<sup>9</sup> Id., p. 20, line 7 and p. 22, line 16.
<sup>10</sup> Confidential Attachment EKM-2 and EKM-3,

Column J, line 28.

1		
2		
3		While in this Cause the Pike project still compares slightly favorably to battery
4		projects in the 2022 IRP, resource planning and project selection require consistent
5		cost comparisons across different technology and project types. For IRPs and
6		requests for proposals ("RFP"), this principle is typically recognized, for example,
7		by a replacement methodology that assigns costs for market purchases of energy
8		and capacity to a project with a short life (like a 20-year purchase power agreement)
9		to compare with projects having a longer life (such as a build-transfer agreement
10		for a facility operating 35 years). This principle and the associated replacement
11		methodology were used in the selection process for the Pike Project. <sup>12</sup> The OUCC
12		recommends Petitioner show the levelized costs for all projects presented to the
13		Commission so that the term lengths and cost recovery periods are equivalent.
		IV. <u>CAPACITY ACCREDITATION AND THE CFD</u>
14 15	Q:	How does the CfD in this cause compare to the CfD previously approved for the Petersburg Project in Cause No. 45591?
16	A:	Typically, in energy markets, a CfD provides one party a fixed price for electricity
17		where the buyer and seller agree to settle the difference. The energy covered by the
18		CfD would be sold into the MISO market, and if the market price differs from the
19		fixed price, then "[a]t settlement, if the market price is higher than the contract for
20		differences fixed price, the seller pays the difference to the buyer; if the market
21		price is lower than the contract for differences fixed price, the buyer pays the

 <sup>&</sup>lt;sup>11</sup> Miller Direct, p. 22, lines 13-17.
 <sup>12</sup> Direct Testimony of Danielle Powers, Confidential Workpaper DSP-2.

1		difference to the seller." <sup>13</sup> However, in this case, the Pike Project does not include
2		generation, and the Pike Project's principal value is providing dispatchable capacity
3		to meet customer needs, while providing some energy arbitrage value. The energy
4		from discharging the battery will be sold into MISO; however, the capacity will be
5		directly allocated to AES Indiana and not sold into the market. The price for
6		capacity is approximately per kW-month
7		
8	Q:	How does this cost compare to recent MISO capacity prices?
9	A:	Prices in the MISO capacity market have been tumultuous in recent years. In the
10		2022/2023 planning year auction, capacity prices across MISO's central (Indiana
11		is located in the central region) and northern regions rose to the Cost of New Entry
12		("CONE") price, which is the maximum price at which a seller can sell capacity. In
13		the 2022/2023 planning year auction, the CONE price was set to approximately
14		\$237/MW-day or \$7.21/kW-mo.14 However, in MISO's first seasonal planning
15		resource auction for the years 2023/2024, capacity prices plunged to a range of
16		\$2/MW-day to \$15/MW-day across MISO's central and northern regions. <sup>15</sup> Finally,
17		the most recent CONE price for the 2023/2024 auction is approximately \$270/MW-
18		day or \$8.22/kW-mo. This variability makes capacity prices difficult to predict. The

<sup>&</sup>lt;sup>13</sup> Direct Testimony of Aaron Cooper, p. 29, lines 8-11.

<sup>&</sup>lt;sup>14</sup> "Making Sense of MISO's Recent Capacity Auction," Vinay Gupta, Dinesh Madan, George Katsigiannakis, and Ian Bowen, found at: <u>https://www.icf.com/insights/energy/miso-capacity-auction-2022-23</u>, last visited on September 11, 2023.

<sup>&</sup>lt;sup>15</sup> "MISO capacity prices plunge over 93% as generation comes online, demand dips in first seasonal auction," Ethan Howland, found at: <u>https://www.utilitydive.com/news/miso-capacity-planning-resource-auction/650727/</u>, last visited on September 11, 2023.

1		capacity from the Pike project is approximately than the
2		maximum price permitted in the most recent planning resource auction.
3 4	Q:	How much accredited capacity would AES Indiana acquire through the Pike Project?
5	A:	This amount will vary over time. For the first year of operation, MISO will assign
6		95% of the BESS's installed capacity to AES Indiana, adding 190 MW to
7		Petitioner's capacity position. <sup>16</sup> However, as discussed above and by Petitioner's
8		witnesses, MISO is considering many changes to its accreditation process. These
9		include, for example, moving away from the planning reserve margin based on peak
10		load and instead, after three years, setting requirements based on the periods of
11		greatest risk within direct loss of load model. <sup>17</sup> MISO's seasonal accreditation
12		model for capacity was approved relatively recently by FERC in August 2022. <sup>18</sup>
13		Also, the market for Electric Storage Resources ("ESR"), a category MISO used
14		that includes battery storage, opened a month later in September 2022. <sup>19</sup> The
15		Commission should consider the uncertainty within the MISO capacity auction and
16		the associated difficulty with estimating future capacity prices when reviewing
17		proposals including a capacity resource. This is especially important for projects
18		like the Pike Project where "the principal value for the resource is providing

- <sup>16</sup> Cooper Direct, Attachment GAC-3.
- <sup>17</sup> Hanks Attachment JWH-1.

<sup>&</sup>lt;sup>18</sup> Midcontinent Independent System Operator, 180 FERC ¶ 61,141 (2022); https://www.jdsupra.com/legalnews/ferc-approves-miso-seasonal-resource-5318446/

<sup>&</sup>lt;sup>19</sup> "MISO Introduces Electric Storage Resource to Market Portfolio," found at: <u>https://www.misoenergy.org/about/media-center/miso-introduces-electric-storage-resource-to-market-portfolio/</u>, last visited on September 11, 2023.

1		dispatchable capacity to meet our customers' needs[.] <sup>20</sup> " OUCC witness Roopali
2		Sanka further discusses capacity accreditation for BESS projects.
3 4	Q:	How do the above considerations related to the price for current and future capacity accreditation affect your recommendation?
5	A:	As stated earlier, this project is approximately than the CONE
6		price for capacity, which is the highest amount a seller can charge for capacity
7		within the MISO market. However, Indiana Code 8-1-8.5-13(g)(2)(B)(ii) stipulates
8		the public utility can reasonably acquire not more than "fifteen percent (15%) of its
9		total winter UCAP [Unforced Capacity] from capacity markets, with respect to a
10		report filed with the commission under subsection (1) after June 30, 2023." Mr.
11		Miller describes the winter capacity deficit for 2025 as approximately
12		For 2025, AES Indiana must provide for the winter season, <sup>21</sup> meaning
13		if it was forced to purchase capacity for the entire deficit, it would be purchasing
14		approximately of its winter capacity from the market, leaving very little
15		room for Petitioner if more capacity purchases are necessary. As accredited
16		capacity is a pressing need for AES Indiana, proposals received in the 2023 RFP
17		were analyzed in terms of the present value revenue requirement ("PVRR") per
18		MW UCAP. Based on this metric, the lowest cost project proposal received was for
19		the Pike County project. <sup>22</sup> Given the short-term need for capacity Petitioner has
20		identified and the Project's favorable PVRR per MW UCAP compared to other

<sup>&</sup>lt;sup>20</sup> Cooper Direct, p. 29, lines 16-17.
<sup>21</sup> Confidential Workpaper EKM-1, "Refuel", row 15.
<sup>22</sup> Powers Direct, p. 18, lines 1-4.

projects received in the RFPs, I do not oppose the Pike County BESS Project,
 provided the OUCC's other recommendations are adopted.

#### 3 Q: What are your other recommendations for the Project?

4 A: I recommend a firm cost cap on the project set to AES Indiana's investment in the 5 Pike Project, including carrying charges, after the tax-equity partner has made its 6 contribution, as referenced in the direct testimony of AES Indiana witness Chad Rogers.<sup>23</sup> As mentioned previously, the capacity payment for the Pike Project is 7 already greater than the maximum price at which a seller can offer capacity into the 8 9 market. In order to ensure ratepayers benefit from a capacity resource that won't 10 generate electricity, cost recovery should be restricted to the already high project 11 costs estimated in this cause. A decommissioning plan and the estimated associated 12 costs must be included and supported by a financial instrument to be posted when 13 the Pike Project begins commercial operation. Ms. Sanka discusses the need for a 14 decommissioning plan. Finally, battery augmentation must be guaranteed to 15 maintain capacity at a minimum of 190 MW x 4 hours for the 20-year term of the 16 CfD to ensure the battery retains its value as a capacity resource. Ms. Sanka's 17 testimony offers more discussion regarding the need for battery augmentation.

#### V. <u>CONFIDENTIALITY</u>

Has AES Indiana redacted any information in its case-in-chief?

18

**Q**:

- 19 A: Yes. Petitioner specifically redacted:
- The total cost of the project;

<sup>&</sup>lt;sup>23</sup> Rogers Direct, p. 19, line 15.

HIGHLIGHT INDICATES CONFIDENTIAL MATERIAL" "Excluded From Public Access Per A.R. 9(G)."

1		• Estimated capacity cost offset by the project;
2		• Estimated monthly payment for capacity;
3		• Revenue allocation between the joint venture partners;
4		• The term of the contract for differences ("CfD"); and
5		• Estimated return on investment for the tax equity partner ("TEP").
6	Q:	Do you have concerns with this degree of confidentiality?
7	A:	Yes. The OUCC understands the importance of confidentiality for trade secrets as
8		defined in statute. While the OUCC did not object to deeming this information
9		confidential in this proceeding, the amount of information Petitioner has deemed
10		confidential reduces transparency for the public. In future proceedings, the OUCC
1		will seek to balance the utility's need for confidentiality with the public's need for
12		information so as to be adequately informed of the impacts of new generation
13		facilities.

#### VI. OUCC RECOMMENDATIONS

#### 14 Q: Please summarize your recommendations to the Commission in this cause.

15 A: The cost of the project compares slightly favorably to the generic battery project 16 estimated in the IRP and the project will contribute to an urgent need for 2025 17 winter capacity. However, I recommend Petitioner represent the cost of projects 18 across technologies using consistent and transparent term lengths to facilitate a fair 19 comparison of the best available options for AES Indiana's portfolio. To address 20 the recommendation raised by OUCC witness Brittany Baker and my 21 recommendation above, the Commission should include a cost cap of AES 22 Indiana's investment amount in the Pike Project, including carrying charges, after

7 0	、	
6		Commission approves the Pike Project.
5		safety issues. The OUCC recommends inclusion of these recommendations if the
4		Project's life to ensure it retains its value as a capacity resource, and address fire
3		plan, as well as require battery augmentation throughout the Pike County BESS
2		by Ms. Sanka, the OUCC recommends the Commission require a decommissioning
1		the TEP has made its contribution. Also, to address the recommendations proposed

- 7 Q: Does this conclude your testimony?
- 8 A: Yes.

### <u>APPENDIX A</u> <u>QUALIFICATIONS OF JOHN W. HANKS</u>

1	Q:	Please describe your background and experience.
2	A:	I graduated from Indiana University-Purdue University Indianapolis with a
3		Bachelor of Arts in Quantitative Economics, with minors in math and philosophy.
4		I began my career with the OUCC in 2022 as a Utility Analyst II, focusing on
5		economics and finance in the Electric Division. In the summer of 2022, I attended
6		the Institute of Public Utilities' Annual Program on Regulatory Fundamentals. In
7		fall of 2022, I participated in the Indiana Energy Conference organized by Indiana
8		Industrial Energy Consumers. In March of 2023, I completed a 12-week course
9		with Scott Hempling on Regulating Utility Performance.
10	Q:	Have you previously filed testimony in other Commission proceedings?

11 A: Yes.

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### Market Redefinition: Accreditation Reform

Resource Adequacy Subcommittee April 18-19, 2023

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### Purpose & Key Takeaways



Purpose: Discuss potential impacts of a Direct-LOL approach to the PRMR, frame considerations for MISO's proposed transition to Direct-LOL accreditation and share data for accreditation methods

#### Key Takeaways:

- Under the proposed Direct-LOL approach, a reduction in accredited capacity would likely also reduce the Planning Reserve Margin Requirement (PRMR)
- MISO is proposing a 3-year transition with step-changes in accreditation with the goal of implementing Direct-LOL after 3 years
  - MISO is planning to share results from applying the Direct-LOL method to other resource types at the May RASC
- Additional design discussions will continue through Q3 2023 with a targeted filing in Q4



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# Background



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# Resource Accreditation: The capacity value of a resource based on its contribution to system reliability during periods of highest risk

Why does MISO accredit resources?

To ensure seasonal Reserve Requirements are met

To inform long-term investment and retirement decisions by accurately representing the capacity value of a resource in the prompt year

To reward resources for operating practices and attributes that serve the greatest system need



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# Reminder of the problem statement and scope developed by MISO and stakeholders to guide this effort:

#### **Problem Statement**

Resource accreditation should reflect the availability of resources when they are most needed. Significant growth of variable, energy-limited resources in the MISO footprint, along with changing weather impacts and operational practices, are shifting risk profiles in highly dynamic ways with implications to Resource Adequacy and planning. MISO's existing accreditation methods for nonthermal resources require further evaluation to ensure that the accredited capacity value reflects the capability and availability of the resource during the periods of highest reliability risk.

Scope

Revisit the established accreditation practices for non-thermal resources with a priority focus on those with the greatest reliability impact in the near-term.



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MISO's recommendation for accrediting wind and solar resources measures a resource's availability when reliability risk is the greatest and can be applied to all resource classes





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## Planning Reserve Margin Requirement (PRMR)



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The current process utilizes Unforced Capacity (UCAP) as an input into the LOLE model and the PRMR calculation, while the proposed Direct-LOL methodology utilizes an output from the LOLE model for the PRMR calculation



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## The PRMR example below shows how the PRMR can be impacted\* under a Direct-LOL accreditation approach

MISO PRMR	PY 23/24 (UCAP)	PY 23/24 (DLOL)	Formula Key
Thermal (MW)	125,602	125,602	[A]
Wind/Solar (MW)	9,869	➡ 8,892	[B]
Adj. {1d in 10yr} (MW)	(2,650)	(2,650)	[C]
PRMR (MW)	132,821	➡ 131,844	[D]=[A]+[B]+[C]

#### ILLUSTRATIVE EXAMPLE: Summer Season

A 977 MW reduction in accredited wind/solar capacity corresponds to a 977 MW reduction in the PRMR

Non-wind/solar capacity held constant (UCAP) Thermal MW include other resource classes and external resources

\*PRMR changes may be directionally similar to changes in accreditation, but the magnitude of change may not be the same.



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## Transition Considerations and Proposal



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## MISO considered several factors in developing a transition plan for accreditation



End State: Consistent accreditation methodology for all resources with continued emphasis and improvements on the probabilistic modeling (i.e., generator capabilities, correlated outages, fuel supply limitations, severe weather).



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### The proposed transition will allow enough time to adjust while preparing for the implementation of Direct-LOL approach in the future



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# The transition will continue building toward a unified accreditation methodology while allowing enough time to adjust

- FERC Filing targeted for Q4 2023
- Implement transition plan in 2024 for Planning Year 25-26





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## Results from evaluating different options at class level



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## Analysis of various accreditation methods for existing wind/solar resources show consistent results at the class level

- Installed Capacity (ICAP) proxy for Tiered Weighting and RA Hour percentages based on Economic Maximum over the seasonal 3-year data set
- ICAP for Unforced Capacity (UCAP) and Direct-LOL (DLOL) percentages comes from PY23 – 24 LOLE study
- Wind and Solar UCAP values come from existing accreditation methods

Summer - Class Level %									
Resource Class	PY23-24 (UCAP)	Tiered Weighting (20% Tier 1, 80% Tier 2)	RA Hours Only (100% Tier 2)	LOL Hours (DLOL)	LOL + RA Hours (50/50 Weighting)				
Wind	18%	19%	18%	13%	15%				
Solar	45%	41%	46%	48%	47%				



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### Next Steps:

- Continue the discussion related to the design and transition of the Direct-LOL method
- Evaluate applicability of Direct-LOL method to other resources types and provide results at the May RASC
- Future considerations and discussions related to the Resource Adequacy Construct
  - Improve alignment between requirements and risk (see appendix)
  - Storage and hybrid modeling within LOLE processes
- A FERC filing for Resource Adequacy accreditation reforms is targeted for Q4 2023



### Stakeholder Feedback Request

- MISO requests written feedback by May 5, 2023, on the following:
  - Planning Reserve Margin Requirement calculation
  - Transition proposal
- Issue Tracking ID#: RASC2019-2, RASC2020-4
- Feedback requests and responses are managed through the Feedback Tool on the MISO website: <u>https://www.misoenergy.org/stakeholder-</u> <u>engagement/stakeholder-feedback/</u>



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## **Contact Information**

**MISO** 

Davey Lopez: <u>dlopez@misoenergy.org</u>

Neil Shah: nshah@misoenergy.org

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## Appendix



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System risk is shifting from peak load as the resource mix continues to evolve introducing a need for MISO to better align LSE obligations with when the actual risk is occurring in the LOLE models

#### **Problem Statement**

The current Load Serving Entity (LSE) obligation to regional resource adequacy is based on the LSE load's coincidence with MISO's peak load multiplied by the regional Planning Reserve Margin. This doesn't align with the adequacy risks MISO is experiencing in its current operating environment, nor the adequacy risks that are predicted to occur in the future. A new process is needed to align the LSE obligation to the risks the system is experiencing.





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MISO had extensive discussion with stakeholders related to non-thermal accreditation throughout 2022 leading to an end of the year recommendation for accreditation reform





#### **AFFIRMATION**

I affirm, under the penalties for perjury, that the foregoing representations are true.

John W. Hanks Utility Analyst II Indiana Office of Utility Consumer Counselor

Cause No. 45920 AES Indiana

September 15, 2023 Date

#### **CERTIFICATE OF SERVICE**

This is to certify that a copy of the Indiana Office of Utility Consumer Counselor's

Redacted Testimony Filing of John W. Hanks has been served upon the following counsel of

record in the captioned proceeding by electronic service on September 15, 2023.

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