VISTRA CORP.'S COMMENTS ON ILLINOIS POWER AGENCY'S DRAFT 2024 POLICY STUDY

Vistra Corp. ("Vistra") respectfully submits comments on the Illinois Power Agency's ("IPA") draft 2024 Energy Policy Study (the "Draft Study"). The IPA has prepared the Draft Study pursuant to Illinois Public Act 103-580 (P.A. 103-0580) which enacted new Section 1-129 of the Illinois Power Agency Act (20 ILCS 3855/1-129 ("Section 1-129")). IPA posted the Draft Study for public comment (as required by P.A. 103-0580) on January 22, 2024, specifying that comments are due by February 12, 2024.

Vistra commends the IPA and its retained consultants for producing the extensive and comprehensive Draft Study in the expedited time period required by the late enactment of P.A. 103-0580 and the required completion date of March 1, 2024. Vistra's comments herein are largely focused on one of the three proposals the General Assembly directed the IPA to study. That proposal is the proposal in Illinois Senate Bill 1587 and Amendment 1 thereto for deployment of energy storage systems ("ESS") supported by the development of energy storage credit targets for the IPA to procure, on behalf of Illinois electric utilities, from privately owned, large scale energy storage providers pursuant to contracts of at least 15 years duration. (*See* Section 1-129(g)(2)). Further, Vistra's comments are largely focused on certain additional information that Vistra submits should be included in the Draft Study as it is further developed into the final study (the "Final Study") to be delivered to the Governor and members of the General Assembly, and on certain inputs and assumptions used in the Draft Study that Vistra submits should be modified.

<u>Vistra Comment 1</u>: Prior to submitting the Final Study to the Governor and General Assembly, the IPA should publish any proposed policy recommendations for public comment.

Section 1-129 requires the IPA to publish the Draft Study for a 20-day public comment period. The IPA has done so; however, the Draft Study does not include any draft proposed policy recommendations. Page vii of the Draft Study states that "The Agency will include recommendations to the General Assembly in the final version of this Policy Study. Those recommendations will be informed by the stakeholder feedback on this draft of the Policy Study." The same statement is found at page 228 of the Draft Study. The Draft Study contains no policy recommendations on which stakeholders can provide comments, making it difficult to understand how any policy recommendations in the IPA's Final Study report can be "informed by stakeholder feedback on this draft of the Policy Study."

Vistra submits that if the IPA intends to include policy recommendations in the Final Study, the IPA should publish its proposed policy recommendations for public comment, prior to the due date of the Final Study. In fact, Section 1-129(f) requires this. Section 1-129(f) states:

> The Agency shall publish a final policy study no later than March 1, 2024 . . . . Prior to publishing the final policy study, the Agency shall publish a preliminary draft of the policy study and provide for a 20-day open public comment period. The Agency shall review public comments and publish a final policy study no later than 20 days after the public comment period ends. The policy study shall include policy recommendations to the General Assembly.

The statute only refers to a "draft" and a "final" policy study, and does not specify nor permit that the final policy study can include policy recommendations which were not published for public comment in the "draft" policy study (or in a separate document). To the contrary, a plain reading of Section 1-129(f) indicates that the "draft" policy study posted for public comment should be a complete (albeit "draft") version of the "final" policy study. And as noted, any policy recommendations in the Final Study cannot have been informed by stakeholder

comments on draft policy recommendations that were not included in the Draft Study or otherwise made available for public comment.

Although the timeline for preparation and submittal of the Final Study is tight, and at this point it is not practical for the IPA to publish draft policy recommendations for a 20-day comment period, Vistra proposes that the IPA publish any draft policy recommendations by February 14, 2024, with a deadline for comments of February 21, 2024 (*i.e.*, one week), leaving the IPA nine days to consider comments on the draft policy recommendations and make any revisions it deems appropriate to the policy recommendations to be included in the Final Study due March 1, 2024.

Vistra Comment 2: The Final Study Report should emphasize that the IPA is not recommending a specific process for incentivizing and acquiring ESS capacity in Illinois, which is a question outside the scope of the policy study.

The General Assembly, in P.A. 103-580, tasked the IPA with studying and reporting on three specific proposals. While two of the three (the Offshore Wind in Lake Michigan proposal and the SOO Green HVDC Transmission Line proposal) are site and method specific and are not being compared to alternative proposals of similar ilk, the third proposal – to acquire ESS resources in the State of Illinois through an energy storage credit procurement program – is only one of several approaches to developing the State's ESS resources that have been suggested and studied in Illinois and other states (and in fact implemented in some other states). To date, no proceeding before the IPA or the Illinois Commerce Commission ("ICC") – including the ICC's proceeding in Docket 22-0237 that resulted in an Energy Storage Program Report – and no action of the General Assembly, has resulted in the designation of any particular proposed approach

as the method and process that will be used in Illinois.[1] That determination – if a particular or preferred method is in fact selected and implemented at some future date – will be the subject of a specific administrative or legislative process comparing the costs and benefits of various approaches.

Accordingly, the Final Study should be explicit in reminding the General Assembly that, as directed, the IPA is only studying and reporting on the specific proposals the General Assembly directed IPA to study; and that by studying and reporting on the costs and benefits of the energy storage credit proposal, the IPA is not recommending adoption of that proposal to the exclusion of other approaches for incentivizing the development of necessary ESS resources in this State.

That noted, Vistra submits that whatever competitive process is used to incentivize development of target quantities of ESS capacity in Illinois, the costs to ratepayers should be essentially the same. The costs to ratepayers for installing and operating a given target capacity of ESS is the installation and operating costs of the ESS facilities less market energy and capacity revenues they receive, and should not vary materially based on the procurement processes employed. Further, from the ESS developer's perspective, a principal objective in selecting or developing a procurement and funding mechanism for ESS should be to enable projects to receive steady and reliable long-term funding and cash flows that reduce financing challenges

[1] In fact, Vistra believes there may be methods, other than the energy storage credit approach, for incentivizing the development of necessary ESS resources in Illinois, that should ultimately be adopted. However, Vistra recognizes that the energy policy study is not the appropriate format for debating different approaches for acquiring ESS resources, as Section 1-129 directed the IPA to study one specific approach.

and costs and enables the developer/owner to manage around short-term difficulties.[2]

Vistra Comment 3: The Final Study should report the cost impacts of the proposals being studied on electricity ratepayers' bills.

The Draft Study reports the total costs and benefits of the proposals studied in millions of dollars. For example, the Draft Study reports that the addition of 7,500 MW of ESS capacity by 2030 through the proposed energy storage credit program would require charges to ratepayers of $381 million per year, net of the market capacity and energy revenues the ESS projects are estimated to collect, with the costs or benefits of each category reported in aggregate dollars. The Draft Study reports costs and benefits of the three proposals for installation and operating costs, energy revenues, capacity revenues, and energy market impact on wholesale energy costs. *See* pages iv, 93 and 220 of the Draft Study and page 47 (Table 7) of Appendix E.[3]

While reporting total costs and benefits on a total dollar basis, as the Draft Study does, is informative, Vistra submits that reporting the costs and benefits at the aggregated annual level may not be meaningful to many legislators. Based on experience, Vistra submits that many legislators want to see the cost and benefit impacts of proposed public utility programs on the monthly bills of their constituents, the utility ratepayers, particularly residential and small commercial ratepayers. Further, Section 1-129(g)(2) specifies that "For purposes of this policy study, it should be assumed that the costs associated with procuring energy storage credits shall be recovered through tariffed charges assessed across all retail customers in a uniform cents per

[22] As Vistra states in another comment, below, the proposed energy storage credit program and any other ESS procurement program should be based on 20-year contract durations.

[3] The Draft Study notes that programs implemented in other states to incentivize development of ESS resources have involved substantial funding from government or ratepayers; for example, New York has provided $400 million of funding for a program in that state. Draft Study p. 58.

kilowatt hour charge." Accordingly, Vistra submits that the Final Study should report the costs of the proposals being studied (i) on a cents per kilowatt hour ("kwh") basis, and (ii) on the monthly and annual bills of residential electric ratepayers at typical usage levels (*e.g.*, for 833 kwh per month/10,000 kwh per year and for 1,000 kwh per month/12,000 kwh per year). Vistra submits that legislators should be provided with information on estimated cost impacts of proposed programs on their constituents' bills at an early stage of consideration of the proposed programs. Indeed, some, and potentially many, legislators may focus on a level of ratepayer billing impact that the legislators view as the maximum acceptable, and then focus (or tell stakeholders to focus) on determining the level of ESS capacity additions whose costs would not exceed that level of ratepayer bill impact.

For example, assuming the "uniform cents per kilowatt hour charge" were imposed on Commonwealth Edison and Ameren Illinois delivery services customers, and based on annual deliveries of about 120 billion kwh to retail customers of these two utilities,[4] the cents per kwh charge to recover $381 million of costs per year would be approximately 0.32 cents per kwh. This charge would increase the monthly bill of a customer using 1,000 kwh per month by about $3.20 and would increase such customer's annual cost by approximately $38.40.

Vistra recommends that the Final Study provide the following cost information for the 1,000 MW, 3,000 MW, 5,000 MW and 7,500 MW levels of new ESS capacity being studied:[5]

(i) Total cost to be recovered through charges to retail ratepayers, net of the market

[4] Sales and delivery statistics for the Illinois electric utilities are reported annually in the ICC's report on *Illinois Electric Utilities, Comparison of Electric Sales Statistics*, available on the ICC's website. *See* https://icc.illinois.gov/api/web-management/documents/downloads/public/en/22-21%20Comparison%20of%20Electric%20Sales%20Statistics-.pdf for the most recent report.

[5] These are the four levels of targets for addition of ESS capacity that the underlying proposed legislation for an energy storage credit program (Senate Bill 1567 Amendment 1) would establish.

energy revenues and capacity revenues the ESS resources are estimated to receive,

(ii) Cents per kwh charge,

(iii) Monthly bill impact for customers using 833 kwh/month and 1,000 kwh/month, and

(iv) Annual bill impacts for customers using 833 kwh/month and 1,000 kwh pe month.

Further, the increase in the legislatively-mandated rate cap (currently 4.25% of 2009 retail electric charges), or the amount of a new, separate rate cap, high enough to allow collection of the projected direct costs of the proposal, should be provided for each proposal being studied. In addition, the Final Study should report the above cost information (i) individually for each of the three programs, (ii) aggregated for each combination of two of the three programs, and (iv) aggregated for all three of the programs being studied.

It would also be appropriate for the Final Study to provide the foregoing information for wholesale electricity cost reductions estimated to be provided at each targeted MW-level of ESS storage capacity. However, this information should be provided separately from the installation and operations cost (net of energy and capacity revenues) information. This is because the "unform cents per kilowatt hour charge" to recover the installation and operations costs (net of energy and capacity revenues) will presumably appear on ratepayers' bills as a new, separate charge. In contrast, reduced wholesale energy costs will be implicitly received by ratepayers through lower electricity supply costs than would otherwise have been the case, but that reduction will not necessarily be identifiable on ratepayers' monthly bills.

Vistra Comment 4: The Final Study should report the amount and cost of the MW of ESS capacity that will maintain current recognized levels of reliability.

The underlying proposed legislation for the energy storage credit program (HB 1587) would set targets for additions of ESS capacity of 1,000 MW in 2004, 3,000 MW in 2006, 5,000

MW in 2008, and 7,500 MW in 2030. However, the Draft Study projects that addition of 7,500 MW of storage capacity by 2030 would produce a Loss of Load Expectation ("LOLE") of 0.01 (equivalent to 0.10 day per year) – essentially zero. In contrast, as the Draft Study notes, a standard industry metric for an acceptable level of reliability is an LOLE of 0.10, or an expectation of one day of electrical load loss in 10 years. Draft Study, pp. iii, 99, and Appendix C, pp. 14, 18 (Table 7). That the addition of 7,500 MW of ESS capacity would produce a level of reliability significantly greater than the standard industry LOLE metric of 0.10 raises the question: Is incurring the costs (largely paid by ratepayers) to add 7,500 MW of ESS storage capacity asking ratepayers to pay for more reliability than is needed?

Accordingly, Vistra recommends that the Final Study include a determination of the level of added ESS capacity that will *maintain* reliability in Illinois at (or just below) an LOLE of 0.10, and the associated cost to achieve that target amount of ESS capacity. This will be useful information for legislators to consider, as legislators could conclude that incurring the costs to add sufficient ESS capacity, as fossil generating units retire, to maintain LOLE at one day in 10 years, provides an optimum combination of ESS capacity additions and cost to achieve.

<u>Vistra Comment 5</u>: The Final Study should provide the analysis specified at page 359, line 24 to page 360, line 17 of P.A. 103-0580, or more clearly indicate where in the report this analysis is provided.

Section 1-129(g)(2) contains the following direction to IPA (*see* page 359, line 24 to page 360, line 17 of P.A. 103-580):

> The policy study shall include a review of the ability of coal-fueled generating plant sites located in Illinois that have been closed since 2016 or are scheduled to be closed by 2030 to support the installation of energy storage systems and potential associated interconnection costs. This review shall include: (i) whether those sites are already in a regional transmission organization interconnection queue, including MISO's replacement power interconnection queue, or would be submitted to the replacement power interconnection queue no later than September 1, 2023, and, if a site is in a

> queue, the site's position in the queue; and (ii) how soon those sites could support development and installation of energy storage systems and any barriers to that development. This review shall also include consultation with electric generation facility owners or operators and renewable developers that own or are in the process of developing energy storage systems in Illinois or that have experience developing energy storage systems in other States.

It is not apparent to Vistra that the above-described analysis is included in the Draft Study, nor if it is included, where it is located in the Draft Study. It may be that the IPA intends for the Draft Study's discussion of the Coal to Solar program, at pages 82-86, to cover the above-quoted legislative directive, although the discussion at pages 82-86 does not appear to include all the information specified in the above-quoted passage from Section 1-129(g)(2). Nonetheless, if the IPA in fact intends for the discussion of the Coal to Solar program at pages 82-86 of the Draft Study to cover the above-quoted statutory directive, the Final Study should explicitly so state. On the other hand, if the above-quoted analysis required by Section 1-129(g)(2) is not included (or only partially provided) in the Draft Study, this statutory directive should be fully addressed in the Final Study.

Vistra believes that the re-use of the sites of retired and to-be-retired fossil generating units in Illinois, as posited in the above-quoted statutory directive, particularly for installation of renewable energy generation facilities and ESS facilities, is a topic of interest to many legislators, especially those legislators whose districts include the sites of retired or to be retired fossil generating stations. The re-use of such sites is consistent with the objectives and structure of the Coal to Solar program. It is also consistent with the IPA, in utility-scale REC procurement events, giving bid-adjustment preferences for proposed projects located in communities eligible to receive Energy Transition Community grants pursuant to Section 10-20 of the Energy Community Reinvestment Act (as the IPA proposed in its 2024 Long Term Renewable Resources Procurement Plan in ICC Docket 23-0714). In directing the IPA to develop such a preference

(Section 1-75(c)(1)(P) of the Illinois Power Agency Act), the General Assembly thereby targeted communities impacted by the closures of fossil-fueled generating plants, which sites could be re-purposed for development of renewable energy resources, as well as to make efficient use of existing transmission and other utility infrastructure.

As additional information relevant to the IPA's fulfillment of the statutory directive quoted above, Vistra provides the following: Vistra could develop energy storage resources at any of nine retired, or to-be-retired, coal plant sites, as listed in Table 5-6 on page 85 of the Draft Study,[6] including those sites where Coal to Solar projects are in progress, as each of these sites contains multiple parcels of land, and some of the sites may be large enough to support more than one ESS project.[7] Vistra could also develop ESS projects at its two natural gas-fueled generation sites in Ilinois, specifically Calumet, located in Cook County, and Kendall, in Kendall County. It is likely that ESS could also be developed at other retired or to-be-retired coal plant sites as noted in Table 5-6 on page 85 of the Draft Study. Further, the IPA should also consider adding a table listing additional fossil generation sites, particularly sites of natural gas-fueled plants, that may need to retire by the end of 2030 due to their location in Environmental Justice Communities combined with the existing statutory emission requirements of achieving zero emissions, including co-pollutants, by the end of 2030. These sites could also be locations for future development of ESS projects, which would both benefit the related Environmental Justice Communities and efficiently use existing transmission and other utility infrastructure at these

[6] The site of the former Wood River generating station in Madison County, listed on Table 5-6, is no longer owned by Vistra or a subsidiary.

[7] Vistra notes that the plants listed in Table 5-6 on page 85 of the Draft Study include plants that are not participants in (and in some instances were not eligible to participate in) the statutory Coal to Solar program. Nonetheless, those sites could be good sites for redevelopment or repurposing to host renewable generation facilities and/or ESS facilities.

sites.

As additional information pertinent to items (i) and (ii) in the above-quoted statutory directive, Vistra notes there likely are multiple ESS projects in Illinois, including some at retired or to-be-retired plant sites, that have, or will soon have, final executed interconnection agreements with the relevant ISO/RTO and transmission utility, obtained through the traditional interconnection application and study process or via an ISO/RTO interconnection queue process for replacement power facilities (particularly in MISO). These projects would be in position to complete development and go into operation more quickly than projects currently in earlier stages, or not yet started, in the interconnection process. It is possible that ESS projects that have obtained, or are close to obtaining, final interconnection agreements could be online by 2028, if not sooner.[8]

Vistra Comment 6: Updates and Revisions to the Information on the Illinois Coal to Solar program.

As discussed in Comment 5 above, pages 82-86 of the Draft Study contains information on the Illinois Coal to Solar program, including information on Vistra's retired and to-be retired fossil plant sites on which new energy storage and/or renewable generation facilities are being or will be installed to transition the sites from fossil generation to renewable generation and/or ESS. In order that the information in the Final Study on the Coal to Solar program (and on the repurposing of fossil plant sites in Illinois generally) can be as up-to-date as possible in describing the status and progress of the Coal to Solar program, Vistra provides the following

[8] It should be caveated, however, that interconnection agreements these ESS projects have obtained or are close to obtaining may have expiration dates within the next 3-5 years if the projects have not been completed and placed into commercial operation by the expiration dates. Vistra currently has three such ESS projects which have secured or are about to receive final interconnection agreements but which will expire if the projects are not completed and placed in service by 2028.

updates and suggested revisions to the information on pages 82-86 of the Draft Study.

With respect to the discussion of the Energy Storage Grant Program in the second full paragraph on page 83 of the Draft Study, the Department of Commerce and Economic Opportunity ("DCEO") has not yet entered into the statutorily-required grant contracts for any of Vistra's three ESS projects that were announced by the DCEO to be recipients of grant awards from the Coal to Solar and Energy Storage Initiative Fund. Further, in August 2023 (well after announcing the grant recipients), the DCEO issued for public comment proposed rules for the grant program. Although it is now well past expiration of the initial comment period (in accordance with the Illinois Administrative Procedure Act) for the proposed rules, DCEO has not yet sent the proposed rules to the Joint Committee on Administrative Rules of the General Assembly. The lack at this time of executed grant agreements and final administrative rules, as well as still-pending interconnection applications for some of the ESS projects, will almost certainly result in delays in commercial operation of these ESS facilities beyond the June 1, 2024 and June 1, 2025 dates contemplated by the Coal to Solar legislation. Further, given the current status of the grant award process, the IPA should consider changing the term "Under Development" in the "Status" column of Table 5-5 to "Under Development/Pending Grant Finalization."

Referring to the text on page 84 of the Draft Study, following Table 5.5, Vistra agrees that the sites listed on Table 5-6 could be opportunities for the location of ESS projects. Consistent with points noted in Vistra Comment 5 above, the IPA should consider adding to the discussion in the paragraph on page 84, that selection of the sites listed in Table 5-6 for development of ESS facilities would lead to reinvestment in the related communities that have been or will be adversely impacted by the fossil plant closures (including communities eligible for Energy

Transition Community grants under Section 10-20 of the Energy Community Reinvestment Act), as well as efficient repurposing of existing transmission and other utility infrastructure at these sites.

Finally, the IPA should consider retitling Table 5-6 on page 85, as it lists sites of coal-fueled generating plants that were not eligible to participate in the Coal to Solar procurement events. A suggested (albeit lengthy) replacement title for Table 5-6 could be "Coal Plant Sites That Could Be Locations for Energy Storage Facilities."

Vistra Comment 7: Contract duration for ESS contracts.

Section 1-129(g)(2) specifies that the proposed energy storage credit program the IPA is to analyze should "us[e] energy storage contracts of *at least* 15 years duration" (emphasis added). It appears that the Draft Study has used 20 year contract durations in its analysis of the energy storage credit program. (Appendix E, p. 4.) Vistra supports the use of 20-year contract durations in analyzing this program (and in analyzing any program for procurement of ESS resources). A longer (20 years versus 15 years) contract duration will reduce annual revenue needs, facilitate financing, and depending on the specific terms, reduce annual ratepayer bill impacts.

Vistra Comment 8: Moss Landing (California) Energy Storage Facility.

At pages 64-65, the Draft Study describes, favorably, the Moss Landing Energy Storage Facility, which is located in central California, was constructed on the site of a retired gas-fueled generation station, thereby enabling the repurposing of the former plant's turbine building for battery placement, and at 400 MW of storage capacity is one of the country's largest battery storage projects (in fact, at 400 MW was at one time the country's largest battery storage project

(Draft Study, p. 64). The Draft Study appears to regard Moss Landing as an excellent example of a successful ESS project. Vistra respectfully requests that the Final Study mention that the Moss Landing ESS facility was installed and is operated by a Vistra subsidiary. Vistra anticipates being a major participant in the Illinois ESS market and believes that its successful Moss Landing project demonstrates Vistra's expertise and experience in constructing and operating ESS facilities, which Vistra hopes to put to beneficial use in Illinois.

Vistra Comment 9: Comments on production modeling and estimated market capacity and energy prices.

Referring to the discussion of Production Cost Modeling Results at pages 205-206 of the Draft Study, Vistra questions the use of the assumption that 8.5 GW of retired fossil generating capacity would be (and could be) repowered to operate as zero-emission generation, operating at a fuel price averaging $45/MMBtu, in order to overcome energy deficiencies in the PJM-ComEd and MISO-Zone 4 regions that will manifest as fossil generation is retired. Draft Study pp. 205-206 and Appendix E p. 18. At a minimum, the Final Study should provide a more detailed explanation of the basis and justification for this assumption, and should discuss possible alternative solutions/assumptions and explain why repowering of 8.5 GW of retired fossil capacity to zero emission generation was chosen (and is the most realistic) compared to other alternatives.

Vistra agrees that there may be rarely-occurring energy deficiencies in ComEd and MISO Zone 4 as fossil units retire, but the assumed repowering of the retired fossil units to operate with such a high fuel cost (and requiring substantial capacity payments, as discussed below) may not be the least cost solution. It would also be useful for the Final Study to identify (or estimate) the amount of repowered generation that would be required if the objective of the

study were to find the least cost solution to the energy deficiency problem – it could be an amount less than 8.5 GW.

Turning to the specific impacts of this assumption, Vistra notes that the hypothetical repowered units would only be called upon infrequently to operate (and would be marginal operating units due to their very high assumed fuel costs), and thus would not receive significant energy revenues. Therefore, these hypothetical units would have to receive substantial capacity payments in order to be viable. These high capacity payments would increase the costs of the scenarios studied, although, to the extent the capacity payments reflect market capacity prices, this would increase the capacity revenues received by the new ESS facilities and thereby reduce the net costs charged to ratepayers for installation and operation of the ESS facilities.

Vistra agrees generally with the assumption (Appendix E p. 18) that with retirements of dispatchable fossil units and addition of substantial intermittent generation, market capacity prices in ComEd and in MISO Zone 4 may go to and clear at or near CONE (Cost of New Entry) for a period of time (although perhaps not as long-term as the Draft Study appears to posit), as lower cost solutions are identified and implemented. Therefore, Vistra does not have serious disagreement with the assumption of market capacity prices tied to CONE in the Draft Study.

However, Vistra has not identified the specific CONE values used in the Draft Study's production modeling; that data point would be useful information to include in the Final Study. In this regard, Vistra notes that MISO determines and uses different CONE values for each of its load zones. Therefore, the modeling in the IPA's study should use CONE values for MISO Zone 4, not an average across all of MISO. MISO's announced CONE value for Zone 4 for the 2024-2025 planning year is $121,434 per MW-year.

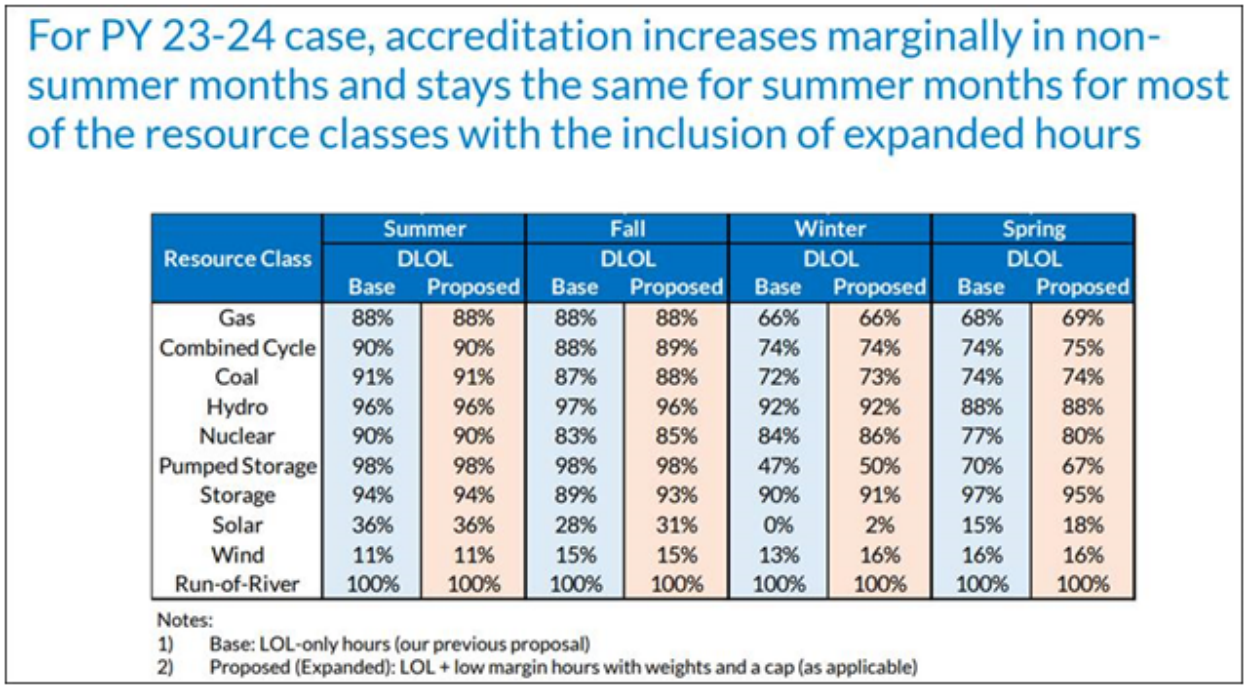
With respect to market energy prices, Vistra suggests that the projected annualized $83,000

Energy revenue for the ESS facilities (Appendix E p. 47 (Table 7)) may be on the low side. In a capacity-tight system where capacity prices clear around CONE, energy price volatility resulting from resource adequacy issues and potential energy deficiencies may be expected. This increased volatility should provide reasonable energy price arbitrage opportunities for the ESS facilities. Note that the level of market energy prices assumed will bear directly on the net costs of the ESS facility that must be recovered from ratepayers.

Vistra Comment 10: Additional information for the grid reliability analyses.

Vistra's only specific comment on the Draft Study's analyses of Generation Reliability and Resource Adequacy and Transmission Reliability and Grid Resilience is to note some recent information regarding the need for and reliability benefits of adding energy storage facilities that may be informative to include in the Final Study. Specifically, during MISO's January 17, 2024 Resource Adequacy Subcommittee ("RASC") meeting, stakeholders were presented with an update on resource capacity accreditation percentages under MISO's preferred Direct Loss of Load (""DLOL") class level accreditation methodology, which MISO plans to file with the Federal Energy Regulatory Commission by the end of March 2024. Under MISO's proposed capacity accreditation methodology, energy storage resources retain a high accreditation percentage throughout the year (*i.e.*, in all four seasons), comparable to or greater than the accreditation percentages for coal, gas, and combined cycle units, as shown in the table below which was provided in the presentation at the January 17 RASC meeting. These accreditation percentages demonstrate the significance for resource adequacy and grid reliability of adding

highly reliable ESS facilities as dispatchable fossil generation retires.[9]



For PY 23-24 case, accreditation increases marginally in non-summer months and stays the same for summer months for most of the resource classes with the inclusion of expanded hours

Resource Class	Summer		Fall		Winter		Spring	
	DLOL		DLOL		DLOL		DLOL	
	Base	Proposed	Base	Proposed	Base	Proposed	Base	Proposed
Gas	88%	88%	88%	88%	66%	66%	68%	69%
Combined Cycle	90%	90%	88%	89%	74%	74%	74%	75%
Coal	91%	91%	87%	88%	72%	73%	74%	74%
Hydro	96%	96%	97%	96%	92%	92%	88%	88%
Nuclear	90%	90%	83%	85%	84%	86%	77%	80%
Pumped Storage	98%	98%	98%	98%	47%	50%	70%	67%
Storage	94%	94%	89%	93%	90%	91%	97%	95%
Solar	36%	36%	28%	31%	0%	2%	15%	18%
Wind	11%	11%	15%	15%	13%	16%	16%	16%
Run-of-River	100%	100%	100%	100%	100%	100%	100%	100%

Notes:
1) Base: LOL-only hours (our previous proposal)
2) Proposed (Expanded): LOL + low margin hours with weights and a cap (as applicable)

<u>Vistra Comment 11</u>: Comments on the Draft Study's discussion of opportunities and barriers for energy storage projects.

Vistra generally agrees with the Draft Study's discussion, at pages 68-77, of Opportunities for and Barriers to the development of ESS. However, from the ESS developer's perspective, Vistra believes that, to date, the Barriers have outweighed the Opportunities, and will continue to do so for the foreseeable future. This has resulted in significant delays for ESS projects, higher costs and greater risks, and increased costs and decreased availability of financing for ESS projects – all of which are noted in the Draft Study.

The Draft Study states at one place that costs for lithium-ion batteries have declined (Draft Study p. 69), but a few pages later cites large increases in the cost of lithium due to

[9] Since the revised resource accreditation percentages were not published until the January 17, 2024 RASC meeting, they were not readily available to be included in the Draft Study released on January 22, 2024.

shortages of supply and increased demand for lithium. (Draft Study p. 76.) Vistra's observation is that developers have been confronted with availability and supply chain issues for this critical component (as well as potential "moral" and reliability issues relating to the manner in which critical minerals are mined in some lesser developed and higher-security-risk countries (Draft Study pp. 75-76). Vistra observes that recent declines in costs for lithium-ion batteries may be largely a result of recent decreased demand for electric vehicles ("EVs"), in both the U.S. and other countries, placing downward pressure on prices of lithium and other key materials common to both ESS and EVs. However, this scenario also presents the very real risk that if demand for EVs increases, due to increased government subsidies and/or mandates or increased consumer acceptance, prices for lithium and other critical mineral components common to both products will be driven upward again by the increased demand.[10]

In Vistra's experience as an ESS developer, the most significant barriers to timely development of ESS facilities have been interconnection process delays and supply-chain-related delays, both of which are discussed as "barriers" in the Draft Study. Vistra's experience with interconnection process delays is consistent with the Draft Study's observations (pages 71-72, 156, and Appendix B p. 7) of two to five years being required to complete the interconnection process and enter into final interconnection agreements (which need to be finalized before the sometimes extensive and expensive work on transmission system upgrades can begin). With respect to supply chain difficulties, Vistra's experience is that, perhaps paradoxically, the

[10] The Draft Study discusses, separately, both factors that have decreased the costs of lithium-ion batteries and other key materials components, and factors that have increased the costs and availabilities of these key components. The Final Study should express a conclusion as to whether, overall, costs and availabilities of lithium-ion batteries and other critical mineral components for ESS present an "opportunity" or a "barrier" to the development of significant amounts of ESS capacity in Illinois.

greatest difficulties and most significant delays have been experienced in obtaining traditional electric utility system components, such as transformers and breakers (as noted in the Draft Study, p. 76), rather than in obtaining components unique to ESS facilities. Further, although the Draft Study states that costs for SS have declined over the last several years (Draft Study pp. 46, 72), Vistra's experience is that labor and construction costs have been increasing significantly, as labor and employers have sought to keep up with inflation.[11]

The upshot of these delay factors for ESS developers has been increased exposure to cost increases as projects experience delays, and increased risks overall, which ultimately impact the cost and availability of financing for projects. Developers, in turn, face difficulties in developing and submitting bids on ESS projects that they (and their financing parties) can have reasonable confidence will not be seriously inaccurate and outdated when the ESS project finally gets to the construction stage. Simply put, a developer and its financing parties can have much greater confidence in a cost estimate for a project capable of being completed in two years as compared to a project that may take four years or longer to bring to commercial operation. This is true whether the developer is determining the strike price to bid into an energy storage credit procurement that will be sufficient to cover costs four to five years in the future, or is determining what amount (and whether) to submit as a bid in some other form of ESS procurement program. As a result, in order to attract sufficient investment capital in ESS projects, it may be necessary that Illinois develop and use a procurement program for ESS

[11] One risk factor for the development of ESS projects that is not discussed in the Draft Study is the manner in which ESS facilities will be assessed, and therefore ultimately taxed, for real property taxation purposes. At present, unlike for solar energy facilities, there is no statutorily-prescribed formulaic method for establishing the assessed valuation of ESS facilities. Depending on the manner in which ESS facilities are assessed and taxed for real property taxation purposes, the level of property taxes imposed could render some ESS projects uneconomic.

facilities that provides developers with protection against the delay-related financial risks described in the Draft Study.

In light of the above factors impacting costs and schedules for ESS projects, all of which are discussed in the Draft Study, Vistra submits that the Draft Study's conclusion that "energy storage systems present promising avenues for cost reduction among ratepayers in Illinois" (Draft Study page 69) is not well-founded. In fact, as discussed in Vistra Comment 3, the Draft Study's modeling of scenarios with 7,500 MW of new ESS capacity installed in Illinois shows that there will be a net increase in costs to be recovered through charges to ratepayers.

In summary, Vistra submits that an appropriate overall conclusion to the Final Study's discussion of Opportunities and Barriers would be that the myriad factors adversely impacting costs and schedules in the development of ESS projects combine to make project financing more difficult and costly to obtain, place project completion at risk, and will ultimately and necessarily increase electric utility ratepayer costs to achieve the State's decarbonization objectives while retaining reliability.

Conclusion

Vistra again acknowledges and commends the tremendous efforts of the IPA and its consultants to prepare the Draft Study on the expedited schedule mandated by P.A. 103-580. Vistra respectfully requests that the IPA consider and incorporate Vistra's comments on the Draft Study in arriving at the Final Study to be submitted to the Governor and the General Assembly.

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