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| Exhibit No.: | |
| Issue(s): | MISO Resource Adequacy Obligations, MISO Utilization |
| Witness: | Andrew M. Meyer |
| Type of Exhibit: | Direct Testimony |
| Sponsoring Party: | Union Electric Company |
| File No.: | EA-2026-0183 |
| Date Testimony Prepared: | May 22, 2026 |

# MISSOURI PUBLIC SERVICE COMMISSION

## FILE NO. EA-2026-0183

# DIRECT TESTIMONY

# OF

# ANDREW M. MEYER

# ON

# BEHALF OF

# UNION ELECTRIC COMPANY

# D/B/A AMEREN MISSOURI

**St. Louis, Missouri**
**May 2026**

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**DIRECT TESTIMONY**

**OF**

**ANDREW M. MEYER**

**FILE NO. EA-2026-0183**

## I. INTRODUCTION AND PURPOSE OF TESTIMONY

**Q. Please state your name and business address.**

A. Andrew M. Meyer, Union Electric Company, d/b/a Ameren Missouri ("Ameren Missouri" or "Company"), One Ameren Plaza, 1901 Chouteau Avenue, St. Louis, Missouri 63103.

**Q. What is your position with Ameren Missouri?**

A. I am Senior Director, Energy Management & Trading for Ameren Missouri.

**Q. What are your responsibilities as Senior Director, Energy Management & Trading?**

A. I am responsible for Ameren Missouri's generation and load asset management in the wholesale energy markets. This includes real-time operation of the generation fleet within the applicable Regional Transmission Organization ("RTO"); procurement of nuclear fuel, fossil fuels, and emission control commodities; financial and physical hedging of any energy, capacity, congestion-rights, or related exposures; and RTO stakeholder relations. I am also responsible for gas supply procurement for the Local Distribution Company ("LDC"), generation performance monitoring, NERC[1] compliance oversight, and operational responsibility for the renewable generation fleet and combustion turbine generator fleet.

[1] North American Electric Reliability Corporation.

**Q. Have you previously testified in a proceeding at the Missouri Public Service Commission ("Commission") or before any other utility regulatory agency?**

A. Yes, I have offered testimony before this Commission on multiple occasions, most recently in File Nos. EA-2025-0238, EA-2024-0237, ER-2024-0319, among others.

**Q. What is the purpose of your Direct Testimony in this proceeding?**

A. The purpose of my Direct Testimony is to support the Company's application for Certificates of Convenience and Necessity ("CCN") in this case for battery energy storage systems ("BESS") assets and two solar generation projects, which include the Castle Bluff BESS, Huck Finn BESS, and Millcreek BESS projects (the "BESS Projects"), as well as the Tom Sawyer Solar Project and the Ringer Solar Project (the "Solar Projects") .[2]

My testimony discusses the benefit of the BESS Projects in satisfying the Company's resource adequacy obligations within the Midcontinent Independent System Operator, Inc. ("MISO").[3] This includes the BESS Projects' contributions to satisfying MISO's Planning Reserve Margin Requirement ("PRMR") and Local Clearing Requirement ("LCR"). I also discuss how the BESS Projects will receive an initial capacity accreditation from MISO that reflects their value as dispatchable resources.

The BESS Projects will also play a crucial role in assisting the Company in satisfying its obligation under the recently enacted State Reliability Mechanism[4] to

[2] The BESS Projects and the Solar Project are sometimes collectively referred to as the "Projects".
[3] The Solar Projects will also contribute to satisfying MISO PRMR and LCR requirements but to a much smaller degree as the Solar Project is being added primarily to meet energy (versus capacity) needs, as discussed in the direct testimony of Company witness Michels.
[4] Section 393.1080, RSMo.

demonstrate how it will satisfy its regional transmission organization resource adequacy obligations on a forward basis.

Finally, my testimony discusses how the Company anticipates utilizing the Projects in the MISO Energy and Ancillary Service market.

## II. SATISFYING MISO RESOURCE ADEQUACY OBLIGATIONS

**Q. Please provide a brief explanation of the MISO resource adequacy construct?**

A. In March 2008, the Federal Energy Regulatory Commission ("FERC") approved the MISO's initial voluntary capacity auction "to allow LSEs ('Load Serving Entities') with insufficient capacity to satisfy the resource adequacy requirements with planning resources from market participants that have excess planning resources."[5] This construct quickly transitioned into the MISO capacity market framework that is still largely in effect today, as FERC approved MISO's filing for a mandatory, annual construct on October 1, 2012, with the intent "to achieve system reliability in operating and planning horizons at the lowest costs, *as well as to complement state resource adequacy planning processes*."[6] This construct established a Planning Resource Auction ("PRA") in advance of a single planning year, removed participation barriers, and created local capacity market signals.

A key aspect of the construct is financial incentives. That is, by ensuring that generators are compensated for their reliability contributions, an incentive is created for

[5] Order on Resource Adequacy Proposal, ER11-4080-000, 139 FERC ¶ 6199, 62365 (June 11, 2012) (emphasis added).
[6] MISO, Filing to Enhance RAR By Incorporating Locational Capacity Market Mechanisms; ER11- 4081-000 at ¶Pg 3 (filed July 20, 2011). We generally refer to this construct as the MISO "Resource Adequacy Construct."

the LSEs to procure and/or build adequate capacity. The LSEs are charged with the financial obligations of demonstrating resource adequacy compliance. Generators and other planning resources, whether owned by the LSEs or bilaterally purchased capacity, are paid the Auction Clearing Price ("ACP"). The financial consequences of the PRA are what create a financial incentive for LSEs to build or obtain sufficient local resources to ensure reliability.

In August 2022, FERC approved significant changes to the MISO capacity construct, changing the annual (single planning year) approach into four seasonal planning windows within each annual period, to identify the unique reliability needs of each season and align resource availability with seasonal needs. Each season has a unique Planning Reserve Margin ("PRM")[7] and unique Zonal Import[8] and Export Limits. Additionally, the MISO accreditation rules for Capacity Resources changed from an annual Unforced Capacity ("UCAP") method to Seasonal Accredited Capacity ("SAC") method for thermal resources. The new seasonal construct using accreditation values announced by MISO in late 2022 did not begin until its use in the PRA for the 2023-24 Planning Year.[9]

In March 2024, MISO again filed with FERC to make a significant change to the accreditation methodology for both thermal and renewable resources, introducing the Direct Loss of Load ("DLOL") methodology. This construct change has been approved, and the first auction utilizing this methodology will be in the PRA for planning year 2028-29.

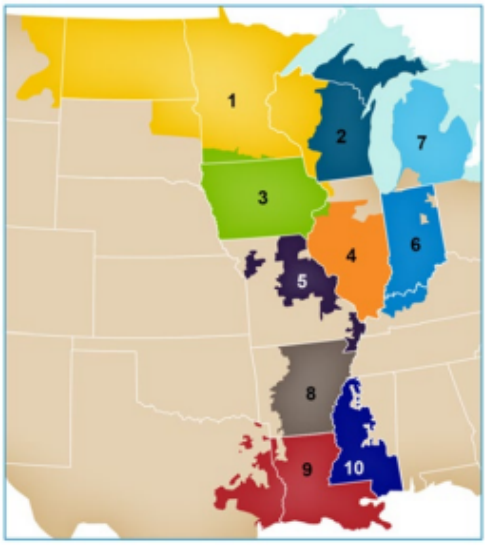
[7] The PRM is the percent of capacity above forecasted load needed to show resource adequacy.
[8] Capitalized terms/phrases used in my testimony that are not otherwise defined have the meanings given to them in MISO's Energy Markets and Ancillary Services Tariff.
[9] The MISO Planning Years are from June 1 to May 31 of the following year.

**Q. How do the local capacity market signals of MISO's current resource adequacy rules work?**

A. The MISO PRA solves for two resource adequacy measures: (1) adequate capacity to meet forecasted load plus a PRMR for the entire MISO footprint; and (2) an LCR designed to assess the adequacy of capacity physically located in each Local Resource Zone. MISO has ten zones, as shown in Figure 1 below, which generally follow the lines of state boundaries, service territories, and geographic dividers, among other factors.

The purpose of solving for zonal LCR is to reflect the value and deliverability of capacity in different locations, a value that is measured by the auction clearing price. In a broader sense, the LCR is designed to ensure sufficient generation is sited in proximity to electric loads. This has been a particular concern for LSEs with load in import-constrained zones that rely on resources outside that zone, or for restructured jurisdictions, in particular, which may not otherwise have sufficient incentives to ensure adequate resources.

**Figure 1: Map of MISO's Local Resource Zones[10]**




| Local Resource Zone | Local Balancing Authorities |
|---|---|
| 1 | DPC, GRE, MDU, MP, NSP OTP, SMP |
| 2 | ALTE, MGE, MIUP, UPPC, WEC, WPS |
| 3 | ALTW, MEC, MPW |
| 4 | AMIL, CWLP, GLH, SIPC |
| 5 | AMMO, CWLD |
| 6 | BREC, CIN, HE, HMPL, IPL, NIPS, SIGE |
| 7 | CONS, DECO |
| 8 | EAI |
| 9 | CLEC, EES, LAFA, LAGN, LEPA |
| 10 | EMBA, SME |

[10] Zone 5 includes Ameren Missouri's service territory in Missouri. "AMMO" refers to Ameren Missouri and "CWLD" refers to the City of Columbia, Missouri's water and light department.

**Q. How does MISO determine LCRs for each zone?**

A. MISO establishes the LCR for each zone based on the formula: "LCR = Local Reliability Requirement – Zonal Import Ability – Controllable Exports." In this formula, the Local Reliability Requirement is the amount of UCAP megawatts required to yield a 0.1 day-per-year Loss of Load Expectation ("LOLE"). This LOLE planning standard is an industry benchmark, based on forecast modeling, for electric system reliability planning, and a 0.1 LOLE represents a system that fails to meet load on only one day in ten years.

**Q. What accreditation as a MISO capacity resource will the Projects receive?**

A. MISO's BPM-011-r33 states that "a class average unavailability rate will be applied to an ESR to determine the default class average capacity accreditation value prior to being in service long enough to calculate a unit-specific forced outage rate."[11] This will vary by season.

The BESS Projects have commercial operation date ("COD") targets of May 2028. As such, they will also be marketable for the summer season of MISO's PRA for Planning Year 2028-29.

Similarly, the Tom Sawyer Solar Project's COD target is by end of Q4 2028. Anticipating that Tom Sawyer will reach its COD early in Q4, the expectation is that it will be marketable for the winter season of MISO's PRA for Planning Year 2028-29. The Ringer Solar Project's COD target is Q2 2029. As such, it will be marketable as MISO capacity for all seasons of Planning Year 2029-30.

[11] https://www.misoenergy.org/legal/rules-manuals-and-agreements/business-practice-manuals/#accordion5133Collapse8%204.2.9.4

As previously stated, this will be the first PRA that utilizes the DLOL capacity accreditation methodology. For BESS accreditation, MISO's 2024 Regional Resource Assessment,[12] projects 2030 DLOL seasonal accreditation values for four-hour batteries of 96.1%, 99.8%, 79.5%, and 97.3%, respective of seasons (from Summer – Spring). Appendix 5 of the same report lists 2030 solar DLOL percentages of 4.8%, 3.0%, 0.6%, and 2.7%, respectively. At the time of this filing, MISO's 2025 Regional Resource Assessment has not been published.

**Figure 2: Forecasted MISO Capacity Accreditation**

| **EA-2026-0183 CCN Projects** | | | | |
|---|---|---|---|---|
| *FORECASTED MISO CAPACITY ACCREDITATION (2030 DLOL)* | | | | |
| | | | | |
| | SUMMER | FALL | WINTER | SPRING |
| Castle Bluff BESS | 95 | 95 | 95 | 95 |
| Huck Finn BESS | 200 | 200 | 200 | 200 |
| Millcreek BESS | 250 | 250 | 250 | 250 |
| Subtotal | 545 | 545 | 545 | 545 |
| BESS DLOL Class Average % | 96.1% | 99.8% | 79.5% | 97.3% |
| Total | 523.9 | 544.1 | 433.2 | 530.1 |
| | | | | |
| Tom Sawyer Solar | 175 | 175 | 175 | 175 |
| Ringer Solar | 225 | 225 | 225 | 225 |
| Subtotal | 400 | 400 | 400 | 400 |
| Solar DLOL Class Average % | 4.8% | 3.0% | 0.6% | 2.7% |
| Total | 19.2 | 11.9 | 2.4 | 10.7 |
| | | | | |
| **TOTAL SOLAR + BESS** | **543.1** | **556.0** | **435.6** | **540.8** |

[12] https://cdn.misoenergy.org/20241106%20RASC%20Item%2010%202024%20RRA%20Update658159.pdf, Pg 25

**Q. Based on MISO's published class-average accreditations, does this align with the Company's IRP modeling underlying its recently submitted 2025 Preferred Resource Plan?**

A. While there is not exact uniformity, the Company's IRP modeling of BESS accreditation aligns well with MISO's published projections. All the accreditation values will be subject to revision prior to when the BESS Projects will be commercially operable in 2028. However, the accreditation information provided above reflects the best available information.

**Q. Will the Projects contribute to satisfying MISO's Local Clearing Requirement for Zone 5?**

A. Yes. In MISO's 2024-25 PRA, Zone 5 (Missouri) witnessed price separation due to a shortfall in its LCR. With the Projects being located at sites in Missouri, the Projects will contribute to meeting the LCR for the zone.

## III. NEW MISSOURI UTILITY LEGISLATIVE REQUIREMENTS

**Q. Please explain the relevant provision of the recently signed Missouri legislation regarding utilities, referred to here as Senate Bill 4.**

A. On April 9th, 2025, Missouri Governor Kehoe signed Senate Bill 4 ("SB 4") into law, creating certain obligations for electrical corporations in relation to their resource planning activities, among several other features that modify and create new provisions relating to utilities. Specifically, the legislation (as earlier noted, known as the "State Reliability Mechanism") provides as follows: "(T)he electrical corporation shall submit such documentation, which shall include its actual capacity position for the upcoming planning year and a reasonable forecast of its capacity position for the three

subsequent planning years consistent with resource adequacy requirements of the appropriate regional transmission organization…."[13] This legislation became effective August 28, 2025. While this provision is currently the subject of a rulemaking at the Commission, the Company anticipates making an annual filing, beginning in 2027, once the rules requiring such a filing are effective, to provide the requested information.

**Q. Will the Projects be included in the capacity position filed with the Commission in satisfaction of the SB 4 requirements?**

A. If the Commission approves the CCNs for the Projects, the Company will include the respective MISO capacity accreditation contributions in its capacity position starting when that capacity is marketable in the MISO market, which we expect to be as early as Summer 2028, depending upon project. Thus, the Projects will assist the Company in making the demonstration required by SB 4.

## IV. BESS OPERATION IN MISO

**Q. What is the Company's expectation for the BESS operation in the MISO Energy and Ancillary Services market?**

A. BESS is a dispatchable resource, which is registered as an Electric Storage Resource ("ESR") in the market. As explained in MISO BPM-002-r25,[14] this registration requires the Market Participant to manage the BESS commitments and operation in the Day-Ahead and Real-Time markets. This may include selecting the Commitment Status of "Continuous," which enables the ESR to be committed for a combination of energy and operating reserves.

[13] https://legiscan.com/MO/text/SB4/id/3187021 Page 68, lines 6-12
[14] https://cdn.misoenergy.org/BPM-002%20Energy%20and%20Operating%20Reserve%20Markets49546.zip Section 4.2.6.3.3

Based on these operating parameters, BESS operations can both meet load needs in times of high peak demand and arbitrage energy prices, which is a strategy of charging batteries when electricity prices are low and discharging them when prices are high, and to financially capitalize on the price fluctuations. With the rapid expansion of wind and solar generation across MISO's footprint, the Company anticipates ample opportunity to charge the BESS and make them available for discharge during peak events. Peak events may take the form of high system load, or large ramps due to changes in MISO interchange schedules, or general system variations. Having a BESS project fully charged at low market prices allows the Company to meet peak demand conditions and do so in a manner that is likely to result in favorable pricing and revenues during those discharge events.

Customer rates will benefit from this arbitrage both as base rates are reset and on an ongoing basis via the Company's fuel adjustment clause. This is because prices tend to be high during times of the greatest system needs, allowing BESS to be dispatched during those times using the lower cost energy that charged them.

**Q. Specific to the MISO energy and ancillary market, is energy arbitrage the only method for the BESS resource to earn revenue?**

A. No, the BESS unit can also provide ancillary services such as spinning reserve, which is a distinct revenue opportunity outside of energy sales revenue.

**Q. Does the Company have concerns that pricing differentials may reduce as BESS and renewables become more prevalent in MISO?**

A. No. As solar generation grows across MISO's footprint, it has potential to decrease market prices during periods of high renewable penetration, typically a subset of on-peak hours. However, one related impact will be more volatility across those same on-

peak hours. It is logical to expect the hours of the day when the sun has gone down but customer demand is still high would experience upward price volatility. These early evening hours, which represent the steepest portion of the commonly referenced "duck curve", are likely candidates to deploy a BESS resource and capture market revenue from high prices.

**Q. Is it the Company's expectation that BESS will perform in a complementary manner to solar generation?**

A. Yes. Consider the following examples in Figures 3 - 6 of how a hypothetical BESS resource may be deployed based on historical MISO market pricing, as it is overlayed with actual generation output from the Company's Huck Finn Solar Energy Center. The seasonal charts demonstrate that BESS discharge opportunities appear during hours when prices are high and solar is not performing. Should MISO see such significant solar development that the actual peak load hour, net of renewable energy, shifts to later in the day when the sun has set, then the BESS opportunity for energy arbitrage will be prevalent. Similarly, the capacity accreditations of BESS should remain strong as these resources should be available during peak hours.

Figure 3.

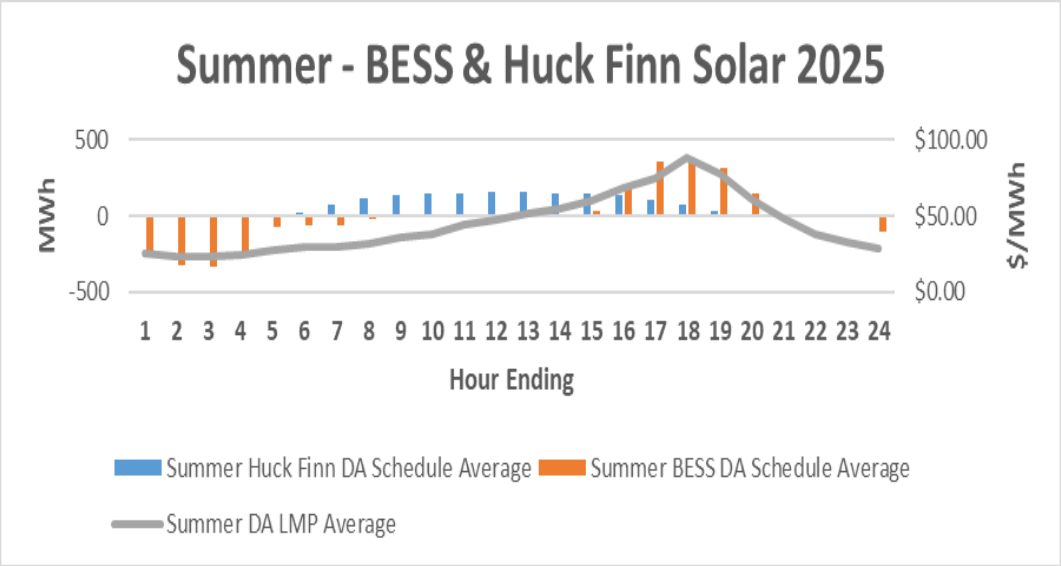



Figure 4.

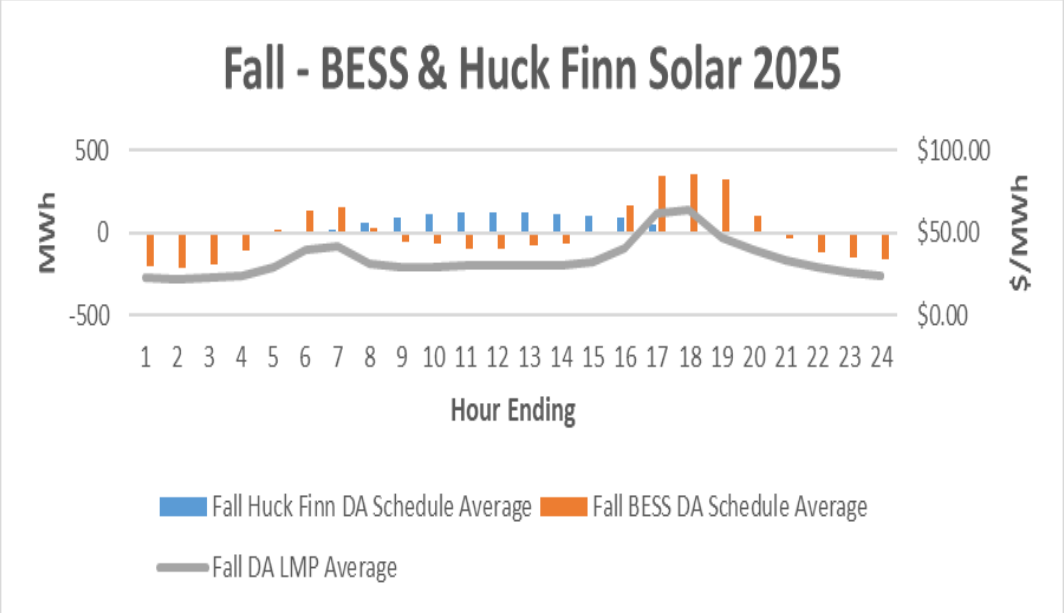


Figure 5.

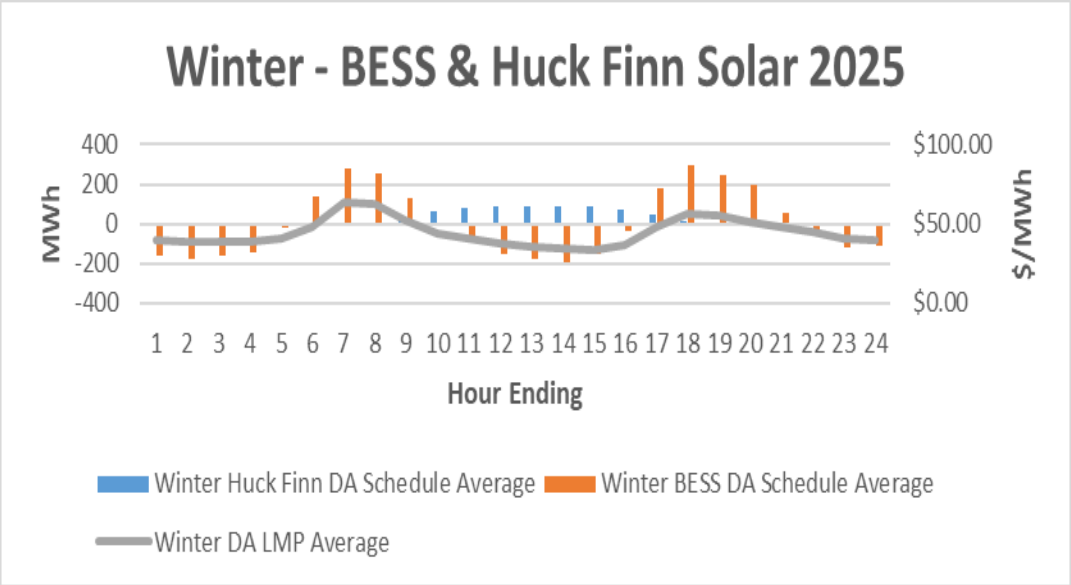
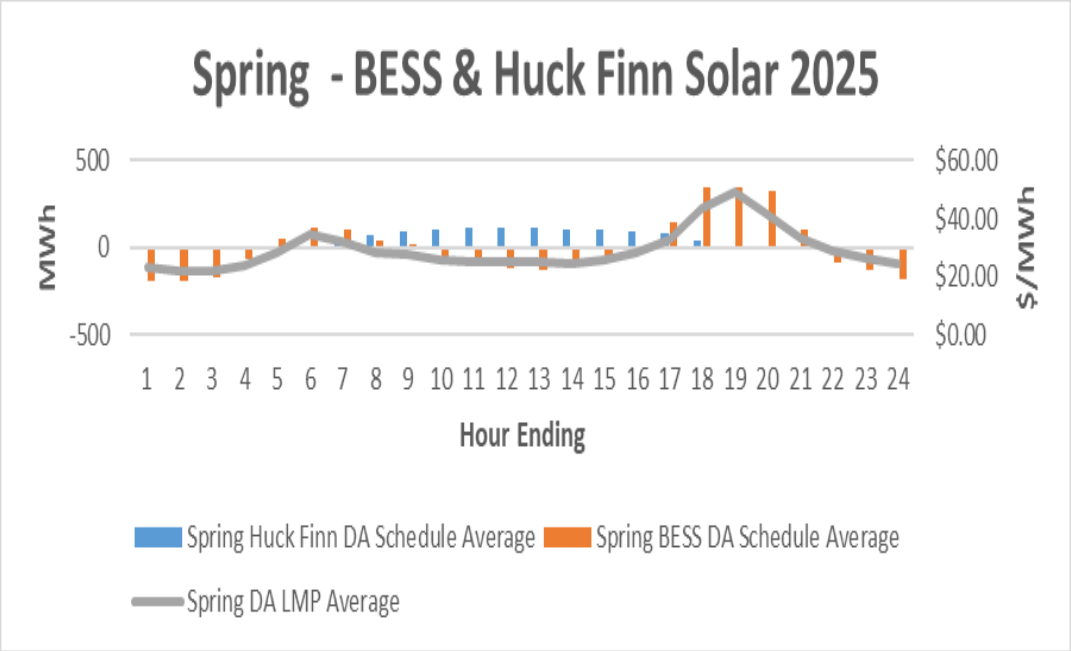



Figure 6.




**Q. Does this conclude your Direct Testimony?**

A. Yes, it does.

**BEFORE THE PUBLIC SERVICE COMMISSION**
**OF THE STATE OF MISSOURI**

| | | |
|---|---|---|
| In the Matter of the Application of Union Electric Company d/b/a Ameren Missouri for Permission and Approval and Certificates of Public Convenience and Necessity Authorizing it to Construct Renewable Generation Facility and Battery Energy Storage Systems. | ) ) ) ) ) ) | File No.: EA-2026-0183 |

**AFFIDAVIT OF ANDREW MEYER**

**STATE OF MISSOURI )**
**) ss**
**CITY OF ST. LOUIS )**

Andrew Meyer, being first duly sworn on his oath, states:

My name is Andrew Meyer, and hereby declare on oath that I am of sound mind and lawful age; that I have prepared the foregoing *Direct Testimony*; and further, under the penalty of perjury, that the same is true and correct to the best of my knowledge and belief.

Andrew Meyer

Sworn to me this 22nd day of May 2026.