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MISSOURI PUBLIC SERVICE COMMISSION

FILE NO. ET-2025-0184

DIRECT TESTIMONY

OF

AJAY K. ARORA

ON

BEHALF OF

UNION ELECTRIC COMPANY

D/B/A AMEREN MISSOURI

St. Louis, Missouri
May, 2025

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DIRECT TESTIMONY

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AJAY K. ARORA

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I. INTRODUCTION & EXECUTIVE SUMMARY

Q. Please state your name and business address.

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

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

A. I am a Senior Vice President and the Chief Development Officer for Ameren Missouri.

Q. Please describe your education, experience, and employment history.

A. I received my Bachelor of Science Degree in Chemical Engineering from Panjab University (India) in May 1992. I received my Master of Business Administration degree from Tulane University in May 1998. I joined a former Ameren Corporation subsidiary, Ameren Energy, in June 1998 and held trading and structuring positions in Ameren Energy before supervising the group that priced structured energy products for former Ameren Corporation subsidiary Ameren Energy Marketing Company's wholesale and retail customers from 2002 to 2004. From 2004 to 2007, I was responsible for the analytical group supporting Ameren Missouri's transition into the Midwest Independent Transmission System Operator, Inc. ("MISO"), including reviewing specific market design issues in MISO.[1] In 2007, I led the Ameren Missouri Regional Transmission Organization cost-benefit study that was filed with the Missouri Public Service Commission

[1] MISO is now known as the Midcontinent Independent System Operator, Inc.

("Commission") in File No. EO-2008-0134, and I assumed responsibility for the Quantitative Analysis, Integrated Resource Planning, Load Analysis, and Operations Analysis groups. In January 2008, as part of my role as Director of Corporate Planning, I assumed additional responsibility for the Asset and Trading Optimization group supporting Ameren Missouri. In November 2011, I assumed additional responsibilities for the corporate Project Management Oversight and Market Risk Management groups. These groups oversee large utility capital projects and commodity risk management. In November 2014, I assumed responsibility for the Environmental Services department as Vice President of Environmental Services and Generation Resource Planning. The Environmental Services department develops environmental policy and provides environmental compliance support, which includes the areas of energy delivery, generation, and transmission. In March 2018, I assumed leadership responsibility for Ameren Missouri's entire non-nuclear generation operations and energy management function as Vice President of Power Operations and Energy Management. I assumed the position as Chief Renewable Development Officer in late 2020 and was promoted to Senior Vice-President and Chief Renewable Development Officer in 2022. In late 2024, I was named Chief Development Officer and assumed responsibility for the planning and development of the Company's entire supply-side portfolio, including both dispatchable and intermittent resources.

Q. Have you previously testified in a proceeding at the Missouri Public Service Commission ("Commission")?

A. Yes, I have offered testimony before this Commission on multiple occasions, most recently in File Nos. EA-2023-0286, EA-2022-0245, EA-2022-0244, EA-2019-0181, EA-2018-0202.

Q. Are there other witnesses testifying in support of the Company's Application for Approval of Ameren Missouri's Large Load Rate Plan?

A. Yes, in addition to my testimony, there are three additional witnesses who are also providing direct testimony in conjunction with the Company's filing in this docket:

- Company witness Robert Dixon, Sr. Director, Economic, Community and Business Development, will outline the economic development rationale for pursuing new service and expanding service to Large Load Customers.
- Company witness Steven Wills, Senior Director, Regulatory Affairs, will provide the details on the proposed changes and additions to the Company's tariffs to reflect new terms and conditions to implement the Company's proposed Large Load Rate Plan. Mr. Wills' Direct Testimony also presents the results of a robust risk analysis that demonstrates that the proposed Large Load Rate Plan is reasonably designed to ensure that Large Load Customers will pay their fair share of the costs incurred to serve them.
- Company witness Matt Michels, Director, Corporate Analysis, will describe how the Company has incorporated anticipated load growth in the Company's Integrated Resource Planning ("IRP") process, as reflected in the 2025 Preferred Resource Plan ("PRP") submitted to the Commission in February of this year in File No. EO-2025-0235, and addresses the Company's capacity position with service to Large Load Customers.

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 request for approval of new tariff terms and conditions to apply to Large Load Customers,[2] that is, customers with a peak demand of 100,000 kilovolts ("kV") served at a voltage of 115 kV or higher. Specifically, I provide an overview of the national and market trends driving new large load across the country, highlight the important impact of these trends on the State of Missouri, and discuss how Ameren Missouri is responding to these trends through its IRP process and the development of the Large Load Rate Plan for which we seek approval in this case. I will also summarize the proposed tariff terms and the benefits they will provide for existing customers, and to the State.

Q. Please summarize your key points.

A. The key points I address in my testimony include the following:

- Like the rest of the country, we expect to add significant new loads arising from Large Load Customers in the near- to intermediate-term (i.e., starting as soon as 2026 and continuing thereafter for at least a decade).
- Such customers are entitled to service from us just like any other person or firm that chooses to locate in our service territory.
- The uniqueness of these customers, including the sheer magnitude of their loads, calls for unique service terms and conditions, which is why we are proposing the Large Load Rate Plan.
- Under the terms and conditions reflected in the Large Load Rate Plan, these new loads are expected to generate substantial economic development

[2] I will refer to these terms and conditions as the "Large Load Rate Plan."

activity in the Ameren Missouri service territory, benefiting all our customers and the State generally.

- The Large Load Rate Plan is designed to attract these loads and deliver those benefits through rates and terms designed to ensure that Large Load Customers pay their fair share of the costs incurred to serve them, through reliance on our robust IRP process and the Commission's continuing ratemaking authority, and on the Commission's ongoing authority under the proposed Plan to approve such large load additions over time.
- The Large Load Rate Plan's terms promote revenue certainty from the Large Load Customers, which in turn allows Ameren Missouri to accelerate dispatchable generation additions which help increase reliability and resiliency for all customers. The potential for additional revenues from the proposed clean energy programs also supports accelerated integration of renewable energy resources, providing fuel-free resources for all customers.

II. OVERVIEW OF THE LARGE CUSTOMER LOAD LANDSCAPE NATIONALLY AND IN MISSOURI

Q. Why did the Company make this filing?

A. The reason for this filing is the significant growth in electric demand driven by the emergence of large-scale, energy-intensive customers – particularly those in the data center services and advanced manufacturing sectors. The continued increase in demand for data cloud services, continued digitization covering more and more aspects of business and daily lives, along with the rapid evolution of generative artificial intelligence ("AI") technologies, has led to a surge

in demand for high performance computing infrastructure, which requires vast amounts of electricity to support intensive computational workloads and 24/7 operations.

According to a 2025 report from Goldman Sachs, data center electricity demand in the United States is expected to grow at a compound annual growth rate ("CAGR") of approximately 17% through 2030, potentially adding almost 40 gigawatts ("GW") of new load by the end of the decade.[3] Similarly, the International Energy Agency projects that global data centers could more than double between 2022 and 2026[4], and international consulting firm McKinsey & Company estimates that such demand could more than triple by 2030[5], , projecting a potential increase in data center demand up to 170 GW globally by 2030.

Q. Are Large Load Customers seeking to locate operations in Ameren Missouri's service territory?

A. Yes, as Company witness Robert Dixon discusses in greater detail, the Company has already executed construction agreements for completion of transmission-level infrastructure necessary to serve approximately 2.3 GW of new Large Load Customer load within its service territory starting as early as 2026. Moreover, while those customers have not amended those construction agreements or signed new ones to cover additional load beyond the 2.3 GW, several of the customers who make up the 2.3 GW for which we have signed construction agreements have already requested that we study adding an additional 1.7 GW of load from them. Also, we have already received additional transmission study requests (covering an additional approximately 11 GW of potential new load) from other potential customers (in addition to the 2.3

[3] Goldman Sachs Research, *Data Center Growth,* 2025.
[4] International Energy Agency, *Electricity 2024: Analysis and Forecast to 2026*, IEA, 2024.
[5] McKinsey & Company, *Investing in the rising data center economy and impact of AI*, 2025.

and 1.7 GW referenced earlier) looking to locate in our service territory. And as Mr. Dixon's Direct Testimony discusses, there is a significant pipeline of additional Large Load Customer additions beyond the approximately 15 GW of load I just discussed.

Q. Please elaborate on the pipeline of Large Load Customers expressing interest in locating in Ameren Missouri 's service territory.

A. As noted, beyond the approximately 2.3 GW for which construction agreements are in place, we are seeing significant interest in new or expanded operations from potential new and existing customers given our competitive power rates, timely access to generation through our robust IRP process, access to suitable construction sites with available transmission interconnection, and the availability of affordable land within our service territory. While the interest is from a variety of sectors, data centers account for over 50% of the expected demand in the Company's overall development pipeline (which exceeds 30 GW) as shown in Figure 3 from Mr. Dixon's Direct Testimony

Q. Are other jurisdictions experiencing similar interest from large customers seeking to locate in their states?

A. Yes, numerous jurisdictions across the United States are experiencing significant interest from large customers, particularly in the data center sector. While Northern Virginia, Dallas, Texas, California (with key markets in Ashburn and Silicon Valley), and Chicago have historically been the most established hubs for these kinds of investments,[6] the growth in demand for data services is creating many other expansion markets across the United States, Missouri has a clear opportunity to be one of them. In fact, in the last couple of years, data center companies

[6] USA Data Centers

have announced significant investments, to the tune of billions of dollars, in states such as Ohio, Indiana, Mississippi, Louisiana, Wisconsin, and Arizona, to name just a few. Large data center customers have traditionally preferred to expand into locations where they already have significant operations. As a result of this inherent preference, to attract the several billions of dollars of economic development investment, which we are already seeing in other states in the central United States as noted above, a utility and state would want to offer compelling and fair energy supply tariffs and solutions to these customers. The interest in locating in our state, and in Ameren Missouri's service territory specifically, presents Missouri and Ameren Missouri with a huge, once-in-a-lifetime opportunity to attract these kinds of beneficial loads and the vital economic development and infrastructure investments they will spur to our region, which can be done in a manner that meets the important needs of new customers while also being fair to all customers.

III. AMEREN MISSOURI'S LARGE LOAD RATE PLAN - BACKGROUND

Q. What were the key drivers behind the design of the Large Load Rate Plan?

A. There are two primary drivers. First, we have an obligation to serve those who desire to locate in our service territory. This includes individuals and businesses of any kind. Given the uniqueness of these Large Load Customers, it made sense to develop tariff terms tailored to the needs and characteristics of these kinds of customers while ensuring reliability and fair rates for all customers. Second, these kinds of loads present significant economic development opportunities and benefits for Ameren Missouri's service territory and for the State of Missouri overall. The new terms and conditions of service reflected in the Plan will aid us in capturing those benefits.

Q. The obligation to serve is inherent in Missouri's utility regulatory structure, but would you please address the opportunities and benefits you referenced above?

A. Yes. These Large Load Customers present an opportunity for the state because of the benefits they can provide. These benefits include support for critical electric generation, transmission, and local infrastructure that will enhance reliability for all customers and significant additional annual electric sales over which to spread the Company's fixed costs of service. Moreover, as Company witness Dixon discusses in his Direct Testimony, such loads are expected to provide myriad economic development benefits, including thousands of construction jobs over several years and hundreds of permanent operational and maintenance jobs, as well as incremental tax revenues and the attraction of complementary business and supply chain partners, thereby further expanding employment opportunities across multiple industries. As Mr. Dixon also discusses, even when tax incentives that are offered to attract new projects, such as those in Missouri, many of the customers who would qualify as Large Load Customers under the Company's Large Load Rate Plan will contribute significantly to local property tax bases and state revenue over time, with those contributions in turn supporting public services and local community infrastructure, as well as enhancing important services like police, fire and schools. As discussed by Mr. Dixon in his Direct Testimony, the hundreds of permanent employees these load additions would bring are expected to spur economic growth through consumer spending at local businesses like restaurants, entertainment establishments and shops thereby vitalizing local economies.

Q. Does the state recognize such benefits?

A. Yes, I believe they do, as evidenced by the Department of Economic Development's engagement in efforts to attract such loads and by existing state programs that are specifically designed to attract customers who would qualify under the Company's filing as Large Load

Customers. Company witness Dixon's Direct Testimony discusses these state efforts in more detail.

Q. Recognizing the potential benefits these kinds of customers can bring, could you please discuss the factors that most influence whether such customers choose to locate in a certain area?

A. Yes. While Mr. Dixon also provides direct testimony on these issues, I want to focus on some things we have learned through the Company's meaningful engagement with prospective Large Load Customers and that we have learned by staying abreast of what is happening across the country when it comes to these kinds of loads. These learnings are important because they have allowed us to gain an understanding of the terms, conditions, and factors relating to their electric service that are important to both attract these kinds of customers and to reliably serve them while being fair both to them and existing customers.

Q. What do those efforts reveal about some of the important factors these kinds of customers consider when deciding whether to locate to a new area such as the Ameren Missouri service territory?

A. These efforts reveal there are several factors that determine whether Large Load Customers would consider establishing or expanding operations in a given location. First, given the rapid changes going on in the data center industry in particular, such customers focus on the speed by which their new facilities can be reliably interconnected to the existing electric system, which turns on the availability of reliable transmission and generation capacity and the ability of the utility to meet their schedule for additional power as they ramp up to their full, permanent load. Moreover, such prospective customers are looking for a good utility partner that, in addition to meeting their basic service needs, can also provide offerings that support their clean energy goals

and expansion of their operations in the future. They need flexible service terms that will allow them to adjust to changing business conditions and that will reflect fair rates and other terms of service given their load characteristics and their needs. Aside from service characteristics, they also consider the availability of suitable building sites, the availability of a skilled construction workforce (and ultimately qualified permanent labor), and the availability of other infrastructure like fiber optic communications and water. The availability of state incentives can also be important to this consideration.

In summary, what we have learned is that,

- These customers are unique and present both benefits and challenges arising from providing service to them;
- Their size is unprecedented and with proper planning and terms of service, their loads are expected to bring the significant benefits discussed earlier;
- It is appropriate to develop service terms and conditions that are specific to these loads, both to meet their needs (and thus attract them) and to also ensure fairness to all customers; and
- They have many options in terms of where they could locate, meaning that states and their utilities need to offer competitive terms and conditions of service vis-à-vis their opportunities to locate elsewhere.

Q. What are some of the challenges regulated utilities are facing in interconnecting these kinds of customers?

A. The main challenge that utilities face in connecting Large Load Customers to their system is building enough generation in a timely manner to provide capacity and energy to reliably serve all customers while meeting the timelines for ramping up to full demand that the new customers desire. In addition, construction of local transmission infrastructure in a timely manner to connect the new customers to the electric system is another key challenge for utilities. Also, notwithstanding the obligation to serve all customers that would like to connect to their systems, utilities are mindful of the need for these new customers to pay their fair share of costs and of the importance of maintaining just and reasonable rates for all customers.

Q. You have discussed the nationwide trends and new load expectations being created by these kinds of customers, the strong interest by such customers in Ameren Missouri's service territory, the benefits they can bring, their needs, and some challenges utilities face. Taking all of those items together, are there some key principles that underpin the proposed Large Load Rate Plan?

A. Yes, there are four key principles underpinning the Large Load Rate Plan, as follows:

1. The Plan should reflect a competitive offering vis-à-vis service options for these kinds of customers that are available across the country, and it should be flexible and provide various energy supply choices, so that these kinds of customers can be attracted to the state and the utility's service territory given that they have choices to locate elsewhere;

2. The Plan should reflect terms that, while meeting these new customers' needs and allowing them to be attracted to the Company's service territory, also provide fair and reasonable assurance that these customers will pay their fair share;
3. The Plan should be underpinned by an appropriate risk analysis grounded in the Company's robust IRP process and the Commission's established ratemaking framework in order to provide a sound basis for concluding that these kinds of customers will pay their fair share. At the same time, it must recognize the right these customers have to receive electric service if they choose to locate in the Company's service territory; and
4. The Plan should be supported by a reliable, balanced, and affordable generation portfolio that benefits both the Large Load customers and existing customers.

Q. Does Ameren Missouri's Large Load Rate Plan reflect the four key principles addressed above, while also addressing the challenges that utilities face in connecting these new large load customers?

A. Yes, it does. I discuss the specifics of how the Plan addresses these items in Section V below. Before I proceed with that discussion, I want to first address some of the specific Plan terms.

IV. AMEREN MISSOURI'S LARGE LOAD RATE PLAN – SPECIFICS

Q. Please describe the Ameren Missouri Large Load Rate Plan and its key elements.

A. As outlined in Company witness Wills' Direct Testimony, Ameren Missouri is creating a new subclass within its existing 11(M) classification to apply to customers with an actual or expected demand greater than or equal to 100 MW, and that requires such customers to take service at transmission voltages, i.e., at service voltages of 115 kV or greater.

The Large Load Customers that fall within this new sub class would be subject to additional terms and conditions. Those additional terms and conditions build on an already established and successful ratemaking framework, in order to provide assurance of an adequate long-term revenue stream, to support accelerating the investment in generating assets the Company had in most cases previously planned to add later and that will be needed earlier to serve these customers. Specifically, Large Load Customers will be required to enter into an Electric Service Agreement ("ESA") with the Company with the following key terms, which must be approved by the Commission:

- Large Load Customers must contractually commit to a term of service of at least 15 years. The term will be broken down into a ramp period and a full load period. The ramp period may be selected by the customer and may extend for up to 5 years. The full load period will commence immediately upon conclusion of the ramp period and will extend for an additional 12 years.
- Large Load Customers must commit to a minimum level of demand charges to be reflected on their monthly bill for the term of their ESA that is equal to 70%

of the contracted capacity reflected in their ESA.[7] The applicable contract capacity will be spelled out for the customer's ramp period in the ESA and there shall be a maximum contracted capacity agreed between the customer and the Company.

- Large Load Customers must either meet certain credit ratings, or else post collateral significant security in the form of cash, a suitable letter of credit, or a guaranty from a creditworthy affiliate.
- Large Load Customers may terminate their ESA but only effective 24 months after they have given written notice to the Company, and if they do so they will be subject to substantial termination payments. The termination payments must cover their minimum demand obligations for the remainder of the ramp period (if termination incurs during the ramp period) plus their minimum demand charge obligations post-the ramp period for the lesser of five years or the then remaining term of their ESA (if less than five years), plus their clean energy program commitments (discussed further below) over the same period.
- Large Load Customers have the ability to participate in four new programs that are specifically designed to assist them in meeting their clean or carbon-free energy goals.

[7] Large Load Customers can reduce the contract capacity by 10% one time but must pay a capacity reduction fee to do so.

Q. Please elaborate on the last item, the four new programs designed to assist Large Load Customers in meeting their clean or carbon-free energy goals.

A. As Mr. Dixon's Direct Testimony discusses, such goals are very important to these kinds of customers and can be an important driver of their location decisions. Consequently, the Company is proposing four new program offerings as part of its Large Load Rate Plan directed toward supporting these customers' clean or carbon-free energy goals, as follows:

- **Renewable Solutions Program – Large Load Customers (Rider RSP-LLC):** Building on Ameren Missouri's existing Renewable Solutions Program (Rider RSP), this new program allows customers the option to subscribe to wind and/or solar generation resources that are a part of the company's preferred resource plan. The customer pays a pre-determined charge for this subscription and receives a monthly energy credit based upon the production of the program resource(s) over the term of the customer's ESA. In return, the Company will either transfer to customer or retire, on the enrolled customer's behalf, the environmental attributes or renewable energy credits ("RECs") associated with their subscription. Ameren Missouri and the enrolled customer will enter into an RSP-LLC participation agreement outlining the specific terms of participation.
- **Nuclear Energy Credit Program (Rider NEC):** This program provides enrolled customers access to, and ownership of the environmental attributes reflected in nuclear energy credits ("NECs") associated with Company-owned existing and new nuclear generation.

The enrolled customer pays a dollar per megawatt hour rate applicable to the number of NECs the customer wishes to acquire over a specified program term. Ameren Missouri and the enrolled customer will enter into an NEC participation agreement outlining the specific terms of participation.

- **Clean Capacity Advancement Program (Rider CCAP):** This program allows enrolled customers the ability to support and access a capacity product that enables the storage of carbon-free (clean) energy. The customer will determine how much capacity they want to support and will pay a monthly charge per kilowatt of capacity supported over the term of their ESA. Ameren Missouri and the enrolled customer will enter into a CCAP participation agreement outlining the specific terms of participation.
- **Clean Energy Choice Program (Rider CEC):** This program provides customers with the ability to influence the Company's generation resource portfolio by requesting and paying for new clean energy resources to be deployed in place of or in addition to resources selected in Ameren Missouri's PRP. The Company would validate and ensure the requested customer changes meet the Company's obligation to provide safe and reliable service. If implemented based on terms agreed to by Ameren Missouri and the enrolled customer, and subject to Commission approval, the enrolled customer shall cover costs associated with its specific request for clean resources and be entitled to the clean energy

attributes associated with the new clean resources being paid for. Ameren Missouri and the enrolled customer will enter into a CEC participation agreement outlining the specific terms of participation.

All of the participation agreements under these programs must be approved by the Commission.

Q. How are program revenues treated?

A. For three of the four programs (RSP-LLC, NEC, CCAP) Large Load Customers will pay a charge for the premium service reflected in the program(s) in which they are participating, which will offset the general revenue requirement of all customers as compensation for the large load customer's receipt of the attributes and benefits associated with these energy supply resource choices, which will be included in rates and provide energy and capacity for all of our customers.[8] For the fourth program (CEC) participating customers will cover the costs of resources that would not have been implemented under the Company's PRP pursuant to a Commission-approved participation agreement.

V. DISCUSSION OF THE KEY LARGE LOAD RATE PLAN PRINCIPLES

Q. Earlier you listed the key principles that underpin the Plan. Please discuss how the Plan reflects the first principle.

A. The Plan reflects the first principle related to creating a competitive tariff offering to attract large load investment by addressing the factors that are most important to Large Load Customers seeking to locate in a specific utility service territory. These factors are timely

[8] Company witness Wills' Direct Testimony proposes a tracker to ensure that such revenues offset the general revenue requirement for all customers. The tracker would also apply to termination and capacity reduction payments.

availability of generation and transmission interconnection, as well as reasonable flexibility in choosing ramp-up schedules. By creating revenue certainty from minimum term requirements, minimum demand payments, and termination payments, the Plan allows Ameren Missouri to invest in accelerating dispatchable and renewable generation that is built in a timely manner starting as early as 2027 and scaling up to meet the desired ramp up schedules of Large Load Customers.[9] In addition, based on feedback from prospective Large Load Customers, the minimum demand levels are set at a reasonable level to allow new Large Load Customers the flexibility to grow their power demand in response to evolving demand for the services that they in turn provide to their own customers.

Q. Please address the second principle relating to the key terms of the Plan.

A. The Large Load Rate Plan has five key terms that reasonably ensure that Large Load Customers pay their fair share, some of which I described above, as follows:

1. A minimum term of at least 15 years (up to 17 years);
2. A minimum monthly demand payment for 70% of the contracted capacity; [10]
3. Termination notice and termination payment requirements;
4. Financial security requirements to ensure payment of their obligations; and
5. Additional revenue opportunities through several clean energy supply options.

The first three of those terms are accounted for in the risk analysis that I will discuss in greater detail below. The fourth term is self-evident, that is, it provides strong assurance that these

[9] There is also a much smaller acceleration of some renewable generation that would otherwise be built at a later time.

[10] As noted, Large Load Customers can reduce their contracted capacity one time after year 5 of their term by up to 10% but must pay a pro-rata termination payment to do so.

customers must actually meet their obligations. And the last term is a key feature needed to meet the Large Load Customers' needs and can provide even more revenues and therefore benefits for all customers due to the addition of these loads.

Q. Please address the third principle, the need for an appropriate risk analysis designed to ensure that these customers pay their fair share.

A. All load additions must be served by the Company's electric service infrastructure, and as the service provider, we have an obligation to provide the resources needed to provide the service. Every utility's generation mix is different and the Company's robust IRP process, performed on an ongoing basis with various filings and proceedings under the Commission's resource planning rule, provides a strong analytical framework for how to best meet those needs. The Commission's established ratemaking process in turn provides a sound basis for the Commission to then ultimately decide how the costs we must incur to meet our service obligations should be fairly allocated among various classes of customers. Given those processes, we developed a robust risk analysis which Company witness Steven Wills discusses in detail in his Direct Testimony. The purpose of the risk analysis is to provide the Commission with sound information across a variety of future scenarios – based on the Large Load Rate Plan's terms -- to allow the Commission to conclude that Large Load Customers are reasonably expected to pay their fair share and will not cause unjust and unreasonable costs to be imposed on other customers consistent with sound ratemaking principles in general, and ultimately consistent with SB 4, signed by the Governor earlier this year.

Q. Would you please summarize the basics of the analysis?

A. Yes. As Mr. Wills' Direct Testimony describes in greater detail, the risk analysis reflects a comparison of revenue requirements with and without significant Large Load Customer

additions. For the purposes of this risk analysis, we compared two cases (1) the first case with significant Large Load Customer additions, where we add 2.0 GW of new Large Customer Load over the next roughly five - seven years (by 2032), that then tapers down to 500MW by 2039 and (2) the second case where we do not add any new load that would qualify as Large Customer Load.[11] The first case recognizes the 2.3 GW of already signed construction agreements that the Company has with customers and therefore assumes we would accelerate certain generation investments, primarily dispatchable generation that were previously planned to be built later, to serve all customers. It should be noted, however, that we ultimately plan to make these investments anyway and with respect to some of them, we believe we should be making them regardless of any significant Large Load Customer additions in order to ensure resource adequacy and reliability for all customers, as we will address in greater detail in certificate of convenience and necessity ("CCN") filings we plan to make in the near-term. Regardless, for purposes of the risk analysis we have assumed acceleration of resources premised on an expectation that we will have approximately 2 GW of new load from Large Load Customers (starting next year and ramping up to those levels by 2032). We then determined the incremental revenues required for this case wherein we accelerate generation to serve 2 GW of new Large Load Customers. Then we calculated the additional total annual revenues expected from these Large Load Customers over the term of their agreements based on several scenarios for future customer rate increases. The difference in these revenue requirements indicates whether the new Large Load Customers are expected to pay their fair share of costs. We then examined scenarios, in the very unlikely case, where the new loads either fully terminate their agreements, or reduce load pursuant to the tariff

[11] The 2 GW case is a reasonable proxy for adding the roughly 2.3 GW of potential loads for which we have signed construction agreements, as I referenced earlier.

provisions, leading to significant termination payments to cover stranded costs. We also considered what ongoing resource planning steps we would take as we move through time in such scenarios (such as deferring certain additions or changing the future mix to avoid future costs) in light of the Large Load Rate Plan's proposed terms. The aggregate difference in revenue requirements (from incremental annual revenues from the large load customers and termination payments in case of a termination scenario) between the two cases results in a comprehensive table described in the testimony of Company witness Steven Wills that confirms that the Large Load customers are reasonably expected to pay their fair share of costs. This risk analysis described in detail by Mr. Wills provides a robust analytical framework to determine whether each Large Load Customer separately and as a sub-class are expected to pay their fair share of costs.

Q. You referenced that the analysis recognized that depending on actual loads certain investments could be deferred. Can you please elaborate on how such steps figured into the analysis?

A. Yes. As outlined in detail by Company witness Michels' Direct Testimony, our 2025 Preferred Resource Plan assumed both the 1.5 GW and 2 GW of Large Load Customer loads and then reflected plans for the timing of various resources based on those assumptions. As Mr. Michels' Direct Testimony also discusses, and as I alluded to earlier, not all of the investments we have assumed in the risk analysis are actually "accelerated" because of adding these large loads because some of these investments we plan to do anyway in the near-term for the benefit of all customers, especially given the acute need for more dispatchable generation now based on market circumstances in MISO and the need to ensure we have substantial flexibility in the timing of replacement generation for future coal plant retirements. But regardless of the need to add some additional dispatchable capacity now, there certainly would be opportunities to defer other planned

additions as we move through time if the Large Load Customers terminate their ESAs or reduce their loads to lower than planned levels. We accounted for these likely deferrals (which would mitigate the impact of load terminations/lower loads) in the analysis. Specifically, for the purposes of the risk analysis we recognized that we have the ability to defer 600 MW of simple cycle gas-fired generation in 2037 and 600 MW of combined cycle gas-fired generation in 2037 and up to a total of 1,400 MW of battery energy storage projects that, due to their modular nature and shorter lead time for deployment, are planned to be built in 100 MW to 200 MW increments annually over a decade and therefore can be more easily deferred.

Q. Please summarize what the analysis shows.

A. The risk analysis shows that the Commission can reasonably conclude that the Large Load Rate Plan will mean that these customers will pay their fair share of costs. And since the Commission always retains the authority, as Mr. Wills explains, to approve or not approve ESAs for Large Load Customers – the Commission can not only conclude that customers bringing the initial roughly 2 GW of Large Load Customer load additions already reflected in the analysis will pay their fair share, but can rely on future iterations of such an analysis when there are more material additions of Large Load Customers as we move through time.

Q. You noted earlier that the term and termination payment provisions, and the minimum load obligation, were all accounted for in the risk analysis. Please elaborate.

A. Under the Large Load Rate Plan, each Large Load Customer must sign an ESA (which must be approved by the Commission), and each ESA has a term equal to their "ramp period" plus 12 years, so a 16-year term for a Large Load Customer with a 4-year ramp period (which is typical). While a Large Load Customer can terminate the ESA's term, as earlier noted they must give 2 years' notice, and the termination doesn't take effect until that 2-year period is

over, *plus* they owe a termination payment equal to all demand charges times their minimum load obligation calculated over the remainder of the ramp period plus the lesser of (1) the remaining term, or (2) five years. For example, a Large Load Customer with a minimum demand of 500 MW with a 16-year ESA term who provides notice in year 8 could terminate after 10 years but would then also owe a termination payment for another 5 years, which is at current rates a termination payment of almost $300 million.[12] In the extremely unlikely scenario that the termination notice is given within the ramp period established in the customer's ESA, the Large Load Customer must still give 2 years' notice, and the termination doesn't take effect until that 2-year period is over. plus, they then also owe a termination payment equal to all demand charges times their minimum load obligation calculated over the remaining term of the ramp period plus an additional five years.

While it is unlikely that a Large Load Customer is going to make a huge investment and then leave the system or substantially reduce their load, these provisions provide significant protection against "stranded costs" that in theory could otherwise exist. That, coupled with our ability to continue to plan on an ongoing basis and to defer certain future generation investments in case these loads are materially less than we had assumed in the risk analysis underpins the conclusion that these customers are expected to pay their fair share of costs.

[12] The payment would be reduced *if* Ameren Missouri could sell capacity it had acquired from MISO into the market or bilaterally – in which case that cost is avoided -- or if Ameren Missouri could "backfill" the terminating customers load with other large load (in whole or in part) - -in which case substitute revenues will be received.

Q. Earlier you indicated that both the risk analysis results and the Commission's ongoing approval authority over Large Load Customer ESAs provide reasonable assurance that Large Load Customers will pay their fair share. Could you please elaborate on the role of the Commission's ongoing ratemaking authority?

A. The traditional ratemaking framework that include a full cost of service study and allocation during regular rate case filings have historically proven to be fully effective in addressing the proper allocation of costs to all customers. As such, over the long term, Ameren Missouri fully expects that this process will fairly allocate costs to all existing and new customers. As indicated in the risk analysis presented by Mr. Wills in his Direct Testimony, the revenue certainty (reflected in the minimum term, minimum demand payment obligations, and termination/termination payment provisions) that new Large Load Customers with up to 2 GW of new demand in aggregate are providing, provides reasonable assurance that adequate revenue will be available to cover short-term acceleration of generation investments required to serve all customers. And the likelihood that these kinds of customers, with aggressive clean energy goals they take very seriously, will sign up for the additional programs the Large Load Rate Plan offers, and thereby provide even more revenues, provides further assurance that all customer rates will be just and reasonable.

The Commission's authority to approve all Large Load customer ESAs along with the expectation that the filing for such approval will include a risk analysis similar to the comparative analysis of revenue requirements that the Company has conducted, which uses an analytical framework that is anchored in well-established IRP analyses and rate making principles, provides the Commission the assurance that there is a well-documented process to for it to determine that all new Large Load Customers in the future are paying their fair share of costs.

Q. Please address the last principle, the need to serve all customers, including Large Load Customers, from a reliable, balanced, and affordable generation portfolio.

A. The Large Load Tariff Rate Plan's five key terms, as demonstrated by the risk analysis, provide reasonable assurance that the significant revenues from these customers supports the Company's investment in accelerating new dispatchable generation, and new renewable generation, all of which is needed and will serve all customers in a reliable and resilient manner. To be clear, our plan is for dispatchable resources, including nuclear, to provide at least 70% of the energy our customers need, with renewables to provide up to the remaining approximately 30%. Both types of generation are important, and the investment in renewable generation and battery energy storage generation is important to new Large Load customers and as such also provides additional opportunities for customers, and especially these Large Load Customers, to provide yet more revenues to contribute to more affordable rates for all customers.

Q. How?

A. As Company witness Dixon discusses in his Direct Testimony, these kinds of customers have clean or carbon free energy goals. This means that part of the means of attracting them to our service territory is to enable them to meet those goals. The Large Load Tariff Rate Plan does this by offering three premium clean or carbon free programs (Rider RSP-LLC, Rider NEC, Rider CCAP) through which Large Load Customers can obtain environmental attributes through the production or storage of carbon free energy along with other benefits to help them meet their goals while the generation that produces those attributes/benefits continues to provide needed energy and capacity for all of our customers. This is a win-win for the Large Load Customers and all customers because the Large Load Customers' needs are met, all customers

benefit from the additional revenues generated, and as noted, all customers are served by the resources.

Q. You referenced three offerings above, but the Plan has four riders. Please explain why you didn't mention the fourth in your above discussion.

A. The three programs (Rider RSP-LLC, Rider NEC, Rider CCAP) discussed above will generate incremental revenues that will benefit all customers. It is correct, however, that there is a fourth rider included in the Plan that is intended to enable Ameren Missouri to invest in technologies that provide baseload or long duration carbon free energy in the future – this could include technologies such as advanced and small modular nuclear, long duration energy storage, or other technologies – that at certain times may not necessarily be a part of our PRP because of their costs at that time but which provide an avenue for long-term reliability using carbon-free capacity and energy that certain Large Load Customers would like to support. Presumably there would be certain costs to adding such resources (above the costs associated with our "base" preferred resource plan) and under this rider, the Large Load Customer desiring that we implement the resource would cover those costs. But the key benefits from adding that carbon free baseload or long duration reliable generation would eventually benefit all customers by demonstrating a technology that could be further deployed in the Company's generation portfolio.

Q. Does the ability to monetize the environmental attributes of the planned future and potential additional clean energy resources by offering these programs to Large Load Customers provide further confidence that Large Load Customers will pay their fair share?

A. Absolutely. While the risk analysis discussed above shows that this is true without incremental revenues from these kinds of programs, given the importance of such programs to these kinds of customers to enable Ameren Missouri to add carbon-free generation to our portfolio

in a timely manner, we expect that they are likely to sign up for them and that they will therefore provide this additional revenue from the monetization of environmental attributes of carbon-free energy resources, further reducing an already low risk relating to stranded costs associated with previously planned generation.

Q. **You noted earlier that the overall generation plan consists of a mix of dispatchable and renewable resources, and that dispatchable resources are expected to provide a substantial majority of the energy the Company's customers need. Could you please discuss near-term plans to implement additional generation?**

A. Yes. We continue to engage in robust resource planning, and when changes are needed to the plan, we make them, as we did when we filed our current PRP in February of this year. While not yet effective, there are new provisions in Senate Bill 4 that will enhance this process and enable getting needed generation on the system in a more cost-effective and timely manner, and we are taking account of those statutory changes as we plan. We also recognize how critical reliability is and understand the challenges we continue to see in the broader MISO market, which continues to become tighter on capacity.

To that end, we have proactively secured long lead time materials for dispatchable gas fired generation and are deep into negotiating contracts for dispatchable battery storage projects to ensure that we have sufficient resources in the near-term. The Commission will see CCN applications related to these additions soon. In addition, the Company continues to execute on the additional generation and storage projects reflected in the 2025 PRP through 2035, subject of course, as I discussed above, to making adjustments as planning considerations change.

Stepping back to look at the big picture, as reflected in the 2025 Preferred Resource Plan, over the next ten years Ameren Missouri is planning to add over 5,000 MW of dispatchable natural

gas baseload and peaking generation and battery storage systems, to replace retiring baseload coal and natural gas-fired generation, incorporate new Large Load Customers, and increase reliability. We also plan to add 4,200 MW of renewable energy resources over that time period. This planned increase in dispatchable generation resources ensures that Ameren Missouri is generating at least 70% of its annual energy needs through dispatchable energy resources, including nuclear, and about 30% from renewable energy resources. By ensuring that Ameren Missouri always has at least 70% dispatchable energy resources between nuclear, hydro, coal, natural gas, and battery storage systems, we ensure that we can reliably integrate renewable energy resources, resulting in a portfolio that is predominantly dispatchable but that includes the benefits of carbon-free nuclear and renewable generation as well. The dispatchable additions in particular will enhance reliability for all customers, including new Large Load Customers. The Company's continued progress on renewable energy projects ensures that we take advantage of the cost effectiveness of renewable energy, which has no emissions, no fuel costs, and provides risk mitigation against continued regulatory pressure on fossil-fuel based assets, especially coal generation, while also allowing us to meet Large Load Customer needs (as noted, which is important to attracting them in the first place) for clean or carbon free energy.

Q. Does this conclude your Direct Testimony?

A. Yes.

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 Approval of New or Modified Tariffs for Service to Large Load Customers.	))))	File No. ET-2025-0184

AFFIDAVIT OF AJAY K. ARORA

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

Ajay K. Arora, being first duly sworn states:

My name is Ajay K. Arora and on my oath declare 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.

/s/ Ajay K. Arora
Ajay K. Arora

Sworn to me this 14th day of May, 2025.