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MISSOURI PUBLIC SERVICE COMMISSION

FILE NO. EA-2019-0021

DIRECT TESTIMONY

OF

AJAY K. ARORA

ON

BEHALF OF

UNION ELECTRIC COMPANY

d/b/a AMEREN MISSOURI

*****DENOTES HIGHLY CONFIDENTIAL INFORMATION*****

****DENOTES CONFIDENTIAL INFORMATION****

St. Louis, Missouri
October, 2018

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OF

AJAY K. ARORA

FILE NO. EA-2019-0021

I. INTRODUCTION

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. What is your position with Ameren Missouri?

A. I am the Vice President of Power Operations and Energy Management.

Q. Please describe your educational background and employment experience.

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 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 ("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 the 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 in my current role as Vice President of Power Operations and Energy Management.

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 a Certificate of Convenience and Necessity ("CCN") for a wind generation project that is necessary to comply with the renewable energy portfolio requirements contained in the

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

Missouri Renewable Energy Standard ("RES").[2] My direct testimony addresses the details of one of the projects being undertaken by the Company to meet those requirements. Ameren Missouri witness Matt Michels is filing direct testimony outlining the applicable RES requirements, Ameren Missouri's need for 700 megawatts ("MW") to 800 MW of Company-owned wind generation to meet those requirements, and the economics and customer benefits supporting the Brickyard Hills Wind Project (the "Project") that is the subject of this case as the means to meet those RES requirements. My testimony describes the request for proposal ("RFP") process that was utilized to obtain the needed resources. I also outline the need for an overall portfolio of wind generation projects required for compliance with the RES, which includes the Project, and address how the Project is an essential part of that portfolio. Last, I discuss the specifics of the Project, the contractual agreement structure used to acquire the Project, and the Ameren Missouri customer protections and value inherent in the Project structure.

Q. Please summarize the key conclusions in your testimony.

A. 1. The Project is the second in a series of wind generation projects required for RES compliance and is an essential part of the Company's overall RES compliance strategy.

2. The Project is a cost-effective means of meeting a part of the RES requirements and provides long-term benefits to Ameren Missouri customers.

[2] As addressed further below and in the Company's application in this case. The Company is also seeking certain other approvals, including merger approval, due to the commercial structure of the project.

3. The build transfer agreement ("BTA") structure allows Ameren Missouri to leverage the developer's expertise with wind generation construction and acquire a late-stage wind project in Missouri.
4. The BTA arrangement is the best structure for capturing the entire value of the approximately $160 million in Production Tax Credits ("PTCs") the Project will generate and to provide all of the cost savings to Ameren Missouri customers.
5. The BTA contains an appropriate level of protections to ensure that the significant benefits of wind generation are obtained for Ameren Missouri customers while including customer protections to address the risks inherent in wind construction.
6. If approved, the Project will provide substantial economic development benefits to the State of Missouri.

II. PROJECT OVERVIEW

Q. Please provide an overview of the Project.

A. The Project is an approximately 157 MW[3] wind generation facility to be constructed in Atchison County in northwest Missouri. The Project developer is EDF-RE US Development, LLC ("EDF-RE"), which is owned by EDF Renewables Development, Inc. (95%) and EDF Renewables Asset Holdings, Inc. (5%) (collectively "EDF – RD/RA").[4] EDF – RD/RA is owned by EDF Renewables, Inc. ("EDF"), a well-established renewable generation developer that has developed nearly 10,000 MW of renewable

[3] As discussed later in my testimony, the Project could have a capacity of between ******* ******* MW and 157 MW.
[4] Unless otherwise specified, references to "EDF" refer collectively to EDF-RE US Renewables, LLC and its parent, EDF Renewables Development, Inc.

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generation over the last 30 years. EDF currently has an advanced development pipeline of about 1,500 MW of wind projects across North America. Moreover, several members of the EDF leadership team have extensive experience developing renewable projects across the United States. As addressed further below, the Project was selected by Ameren Missouri as an essential part of its RES compliance strategy after an extensive RFP process. The energy from the Project will be deliverable to Ameren Missouri's load via the Project's connection to a MidAmerican Energy 345kV transmission line. I would also note that since the Project is located in Missouri, the Company and its customers will benefit from the 1.25 multiplier applied to Missouri wind for purposes of determining the number of renewable energy credits ("RECs") obtained by the Company for RES compliance purposes.

Q. Why is Ameren Missouri seeking a CCN for the Project if EDF-RE is constructing it?

A. While it is true that EDF-RE will construct the Project and that it will then be immediately acquired by Ameren Missouri upon completion, functionally, the Project is in many respects no different than if Ameren Missouri had itself purchased the equipment from the vendors, purchased or leased the land and easements needed to construct, own, and operate the Project, and signed the contracts with the construction firms. Consequently, while I am not an attorney, it is my understanding that it is the Company's view that the spirit of the CCN statute's requirement that an electrical corporation obtain a CCN prior to construction applies, even if by the letter of the statute it arguably may not apply.

Q. Is there a name for a project of this type?

A. Yes. The Project is being constructed under a "build transfer agreement." Under a BTA, a wind developer builds the project, but the ultimate owner has contractual rights both before and during construction to ensure that the project is built to the ultimate owner's specifications and will otherwise meet the ultimate owner's needs. Some might call this a "turnkey" project in that the developer will build it to the ultimate owner's requirements at a contractually agreed upon cost and completion schedule, assume many of the risks during construction, and then hand the keys to the ultimate owner with the project in fully-completed and operable condition.

III. PROJECT STRUCTURE

Q. Are there important advantages of the Company using the BTA structure for the Project for RES compliance?

A. Yes. The BTA approach currently carries with it certain important advantages for RES compliance for Ameren Missouri customers.

Q. What are some of those advantages?

A. The first advantage is that Ameren Missouri will be able to utilize the full value of the federal PTCs and pass the significant cost savings those PTCs will produce on to its customers. Ameren Missouri will be able to capture and pass those PTC benefits through to customers due to the stage in project development EDF-RE has achieved at this time, which will enable the Project to be completed by 2020.

Q. Please elaborate.

A. In the current wind development environment in this country, a key part of the value of any wind generation project is its ability to take full advantage of the PTCs.

As the name implies, PTCs are credits against the owner's tax liability arising from production of energy from the wind facility. In the case of Ameren Missouri, lower tax liability will manifest itself as lower costs for the Project (and for RES compliance). Those lower costs will then be passed through to Ameren Missouri's customers under the RESRAM[5] that is discussed in the direct testimony of Ameren Missouri witness Steven Wills in File No. EA-2018-0202.

To obtain the full value of the PTCs, a project must meet several important and time-critical milestones that a self-built project starting today would be unable to achieve. First, the project must have incurred, by the end of 2016, at least 5% of qualifying project costs to satisfy the PTC "safe harbor" rule. One means to meet this requirement is for the wind project developer to purchase PTC-qualified "safe harbor" equipment before the end of 2016 and to obtain title to and delivery of the equipment within a specified time period. As confirmed by Ameren Missouri's external legal due diligence, EDF successfully safe harbored equipment in 2016 and thus has met the 5% requirement for the Project.

Second, to fully qualify for the PTCs, the Project must be constructed, tested, and commissioned by the end of 2020. To achieve Project completion in 2020, the land rights needed for the Project must be acquired and transmission agreements must be executed. EDF-RE already has all of the land rights needed for the expected wind turbine locations for the Project and expects to obtain the remaining land rights for the gen-tie line and one collection circuit by November 1, 2018. Furthermore, EDF-RE has secured a spot in the MISO queue that will allow transmission agreements to be put in place in time to meet the 2020 in-service deadline. We believe EDF-RE has reached a stage of development of the

[5] Renewable Energy Standard Rate Adjustment Mechanism.

Project that would allow the Project to be completed by the end of 2020 to realize the full value of the PTCs. Achievement of the 2020 deadline is a closing condition of the BTA. Failure to do so allows Ameren Missouri to not close the transaction.

Q. What are some of the other advantages?

A. Developers such as EDF-RE have developed and maintain expertise in executing the many steps needed to expeditiously and cost-effectively locate wind projects, obtain needed property rights, complete required environmental and transmission studies, and build, test, and place into operation projects of this type. This is expertise that Ameren Missouri intends to develop over time, but is not expertise that Ameren Missouri possesses today. As discussed above, EDF-RE's expertise can be leveraged through its completion of this Project in a shorter time frame than the Company could achieve if it used a self-build approach; that is, by the approaching 2020 deadline to take full advantage of the PTCs.

Q. How valuable are the PTCs?

A. For the Project, the value of the PTCs is expected to be approximately $160 million over 10 years.

Q. Please elaborate on how the BTA structure maximizes the probability of being able to capture that value.

A. Under the BTA structure, the developer (EDF-RE here) takes on the construction and schedule risk, including the risk that the Project is not constructed and transferred to the Company in time to qualify for the full PTC value. EDF-RE is well suited to take on that risk because of advantages it possesses due to (a) having already built good community relations in the Project area, (b) having acquired all of the land rights needed for the turbines for the Project, (c) having participated in the lengthy MISO transmission

interconnection queue process, and (d) having acquired safe harbor wind generation equipment.

Q. Please outline the basic contractual arrangements between Ameren Missouri and EDF-RE in more detail.

A. Attached to my testimony as Highly Confidential Schedule AKA-D1 is a summary of the build transfer agreement. The entire agreement is also attached as Highly Confidential Schedule AKA-D2. Key terms are as follows:

- The BTA is between Ameren Missouri and EDF-RE US Development, LLC. EDF-RE is the parent company of a special purpose limited liability company, Brickyard Hills Project, LLC (the "LLC"), which is the owner of the Project.
- The LLC will ultimately acquire all of the property and other rights needed for the Project, including equipment, land rights, transmission agreements and permits needed for the construction and operation of the Project. **_____** of the land rights for locations where the wind turbines are expected to be placed have already been acquired.
- Upon completion of the Project's construction (expected by December 2020, no later than ***_____***), the ownership interests of the LLC will be acquired by Ameren Missouri. The LLC will then immediately be merged into Ameren Missouri and will, by operation of law, consequently cease to exist leaving Ameren Missouri as the owner of all rights and obligations of the Project.

- The purchase price for 100% of the ownership interests in the LLC consists of a base price of ***_____*** subject to certain adjustments outlined in the BTA, plus additional minimal project diligence, governance, quality assurance and oversight costs to ensure the Project is being built to Ameren Missouri's specifications for an asset life of 30 years or more.[6] This figure does not include transmission network upgrade costs which are yet to be determined.[7] The transaction will proceed so long as those transmission costs are ***_____*** or less. Mr. Michels has run scenarios on the project economics at up to $35 million of these transmission upgrade costs and the resulting analysis is included in his testimony.
- EDF-RE is to commence construction after a number of conditions provided for in the BTA are satisfied, including:
    - Issuance by the Commission no later than June 1, 2019, of a final, un-appealable CCN without any conditions or requirements that, in Ameren Missouri's sole discretion, are unacceptable;
    - The Federal Energy Regulatory Commission's ("FERC") approval, no later than June 1, 2019, to close the transaction under the BTA under Section 203 of the Federal Power Act;[8] and

[6] The base price will be reduced by ***_____*** per kilowatt ("kW") if the Project's capacity is less than 157 MW.
[7] Transmission network upgrade costs will be estimated after the MISO interconnection study process is complete.
[8] Ameren Missouri must secure FERC approval pursuant to Section 203 of the Federal Power Act to merge or consolidate the facilities into Ameren Missouri.

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- Completion of MISO interconnection studies, indicating that the interconnection costs associated with the Project will not exceed ***_____***, unless either party has given notice by that date that it will cover the excess.

- The schedule for the Project estimates construction to be completed by no later than ***_____*** so that full advantage of available federal PTCs can be taken.
- There are certain provisions of the BTA that address the situation where the Project capacity is less than 157 MW, but at least ***_____***, and options if the Project's capacity is less than ***_____***, which I will discuss further below.
- The BTA includes a number of provisions that protect Ameren Missouri and, ultimately, its customers, including:
  - ***_____
    _____
  - _____
    _____
  - _____
    _____
    _____
  - _____
    _____

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- ***.

Q. What are the main drivers of the Project schedule?

A. The two main drivers are the increase in the RES portfolio requirements effective in 2021 (an increase from 10% to 15%) and the annual reduction in the value of the PTCs for wind generation at the end of 2020. Consequently, we have outlined a schedule that is designed to ensure that the Project can contribute to the Company's compliance with the RES portfolio requirement, and can take maximum advantage of the PTCs, which results in lower RES compliance costs and therefore lowers rates for our customers.

Q. With the possible completion date of the Project being * ***, what happens if there are project delays?**

A. The risk of project delays pushing completion beyond *** ***, is a risk that EDF has assumed. To mitigate this risk, we have provided EDF with the ability to complete a smaller project (a minimum of *** ***). Also, EDF is taking certain measures to reduce schedule risk such as agreeing to enter into a contract to provide commissioning power and maintaining a contingency plan to pre-commission the turbines if construction delays occur. While the schedule is tight, we fully believe that with proper planning and adherence to the proposed construction schedule, there is sufficient time to construct all 157 MWs on or before *** ***.

IV. THE REQUEST FOR PROPOSALS PROCESS

Q. Please provide the background for the RFP process that led to selection of the Project.

A. As outlined in my direct testimony submitted in File No. EA-2018-0202, in December 2015, Ameren Missouri issued a RFP for wind generation projects that could begin producing energy in the 2018-2020 timeframe. Because each megawatt-hour ("MWh") of Missouri wind counts as 1.25 MWh for RES compliance, the RFP stated a preference for Missouri-based wind projects and for projects that would be interconnected with the MISO system and deliverable to Ameren Missouri load without incurring additional "through and out" transmission charges. The RFP sought bids under which Ameren Missouri could acquire the wind.

Q. What responses were received?

A. In January 2016, the Company received responses from seven bidders, including EDF-RE, for the Project that is the subject of this case. The seven bidders proposed a total of 13 different projects, the aggregate capacity of which was in excess of 2,000 MW. The projects were located in Missouri, Illinois, and Iowa.

Q. How did the RFP process proceed after the bids were received?

A. From approximately January 2016 to April 2016, the Company examined the bids for the 13 projects for compliance with the RFP and engaged in a screening evaluation of each response using certain selection criteria.

Q. What were the selection criteria Ameren Missouri used in this initial screening evaluation of the bids?

A. In general, we evaluated and screened all 13 projects on technical, commercial, and economic criteria, including the following key project elements: site control, wind assessment, interconnection studies timeline, wind turbines offered in the project, environmental assessment, and developer experience. Later in my testimony, I provide a more detailed discussion of the specific criteria we used. As a result of this process, we narrowed our consideration to a total of six projects proposed by four different developers: Terra-Gen High Prairie; EDF Brickyard Hills ***_____ _____***. Similar to the Terra-Gen High Prairie project, the EDF Brickyard Hills was part of the original short list of projects.

Q. How did the RFP process proceed after you had narrowed the projects down from 13 to 6?

A. While evaluating the 13 projects and after narrowing the list to 6, we met with the shortlisted developers in the summer of 2016, and each of them made a detailed presentation of their project(s) and answered our questions.

In the fall of 2016, without Ameren Missouri's full due diligence and financial evaluation being complete, the BTA pricing for Missouri wind generation projects without transmission upgrade costs was generally in the range of ***_____ ***. As earlier noted, the BTA for the Project is at a significantly lower price of approximately ***_____*** (without any transmission upgrade costs), reflecting a more than 12% to an approximately 15% decline in price from other Missouri wind projects offered in the initial RFP. It is also important to note that the price of ***_____*** includes approximately ***_____ *** of the three ring transmission connection thereby resulting in a base project cost of approximately ***_____***, which is close to the

base project cost of the High Prairie project which is the subject of File No. EA-2018-0202 (the three ring transmission connection for High Prairie is included in transmission interconnection costs for that project, instead of in the base project costs).

Q. What led to the price decline?

A. In order to fully maximize the value for Ameren Missouri customers, we continued to engage in an ongoing price discovery process through discussions with the four remaining bidders and with others, which included other wind developers that provided us with unsolicited proposals. Through these ongoing evaluations and discussions, by the second half of 2017, we were able to determine that significant declines in wind project development pricing were possible, particularly driven by lower wind turbine prices (wind turbines are a significant component of a wind project's cost). We continued to discuss with the remaining bidders the need for them to revise and refine their bids in light of these lower costs.

Our ongoing analyses and discussions also led us to the conclusion by the second half of 2017, that as a result of lower prices for wind generation, Ameren Missouri could utilize at least 700 MW of new Company-owned wind generation for RES compliance while also staying below the 1% rate cap contained in the RES.

Our ongoing RFP evaluation, detailed financial diligence, and advances in the development of wind turbine technology led us to conclude that a portfolio of at least 700 MW of new Company-owned wind generation would be a cost-effective means to comply with the RES requirements. Having quantified how much wind generation we would need, we proceeded to narrow our options, including by accounting for the 1.25 multiplier for renewable energy generated in Missouri (the multiplier is not available for projects outside

Missouri, and without it, we would need more than 800 MW of new wind). As part of that process, it became apparent that the Project, in addition to being cost-effective on its own, would play an essential role in the larger RES compliance portfolio that we needed. Since we need at least 700 MW, but the Project along with the Terra-Gen project will only satisfy up to 557 MW of that need, we are continuing to negotiate for other projects and plan to seek CCNs for additional projects for RES compliance in the near future.

Q. Before the Company finalized its selection of EDF-RE as the developer for this project, were the major developers of wind projects in the United States afforded the opportunity to provide bids for other projects in Missouri, Illinois, and Iowa for Ameren Missouri's RES compliance?

A. Yes. Between the seven bidders who initially responded to the RFP and the additional developers who provided us with unsolicited proposals which I previously discussed, the major wind developers in the U.S. have had the opportunity to bid projects in Missouri, Illinois, and Iowa for RES compliance.

Q. You mentioned earlier that you applied certain specific criteria when evaluating the projects. What was the selection criteria that you used?

A. The complete list of the criteria we applied for in the selection of projects to be included in the RES compliance portfolio are project costs, PTC qualification and retention, status of participation in the MISO queue, status of acquisition of required land rights, status of environmental studies, wind conditions and expected capacity factor, turbine selection for reliability of generation for the project, operations and maintenance costs and expected locational market prices. As earlier noted, we applied all, or nearly all, of these to the 13 projects that were initially bid, but with regard to the subset of 6 projects

that were selected as part of the initial screening process discussed earlier, we applied these criteria with more rigor. Since wind projects can be meaningfully different in terms to these criteria, it is important to consider and evaluate the impact on customers of all factors as an overall package resulting in an evaluation of the total net revenue requirement before a project is selected.

I should also note that while we looked at numerous factors as listed above, no one factor can be considered in isolation in the selection of a wind project, and the overall economics of a project has to be considered. The overall economics of a project is a function of the total cost of ownership over the asset life, expected generation, and market price of power as well as the net benefits of a project to the Company's customers (reflected in its revenue requirement), which are equal to the realized market price for the project's power, minus the project's revenue requirement net of the PTCs. As outlined in Mr. Michels' testimony, the Project is expected to result in tens of millions of dollars in net customer benefits over the life of the Project.

V. ADDITIONAL PROJECT RISKS, RISK MITIGATION, AND DETAILS

Q. Please outline the main risks associated with development and construction of wind projects and how Ameren Missouri customers are protected through the BTA structure for the Project.

A. All projects of this magnitude carry risks, and that is true of the Project as well. The main risks associated with this Project are as follows:

1. Transmission system interconnection;
2. Land control;
3. PTC value qualification; and

4. Construction and PTC value retention.

Q. Please explain the first risk relating to transmission system interconnection.

A. Transmission system interconnection costs (here, from MISO) are an unknown component of any wind generation project until the Generator Interconnection Agreement ("GIA") is fully tendered to the project developer and the transmission owner. MISO has a detailed and defined process to determine the transmission system interconnection costs through various phases of transmission studies in the MISO queue process. The transmission interconnection costs are a function of the MISO queue that a project is placed in, which also includes all the other projects in the MISO footprint that are seeking interconnection agreements. This includes other projects that are ahead of the project under consideration in the queue, as well as all the other projects that are in the queue behind the subject project. Ultimately, the transmission interconnection costs depend on how many projects in the queue process actually proceed to complete construction and commissioning. For all these reasons, interconnection costs remain an unknown cost even at this stage of developing the Project.

Q. From a practical perspective, what does this mean for the Project?

A. The MISO queue process has three phases before the final generation interconnection costs are known. The Project is currently in the early stages of the process. As each phase is completed, additional study deposits must be paid – and after the second phase, on a non-refundable basis. After the second phase is completed, which for the Project is expected by June 1, 2019, a non-refundable guarantee payment to MISO equal to 20% of the then-expected transmission interconnection costs is due to cover further study

costs and to prove the developer is serious about continuing to pursue the Project. This sum is non-refundable and it must be timely paid; otherwise, the Project will lose its place in the MISO queue and the developer will lose any realistic chance of completing the Project on time to capture the full value of the PTCs. The final estimated costs are known after completion of the third phase, after which the GIA is tendered. Therefore, typically for a wind project, transmission interconnection costs become known before project construction starts and when the GIA is signed. We expect the third phase to be completed in late 2019.

Q. How has the Company mitigated the risks relating to transmission interconnection in the BTA?

A. ******* _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ *******.

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Q. What do you expect the ultimate interconnection costs for the Project to be?

A. As I mentioned, we cannot know for sure, but we have performed sensitivity studies to determine the range of transmission interconnection costs that are cost-effective for customers for Ameren Missouri RES compliance purposes. Those studies are included in Mr. Michels' testimony and show that RES compliance costs are not expected to exceed the 1% cap for RES compliance even when we stress the financial assumptions for the Project.

Q. What happens if the interconnection costs exceed ***_____*?**

A. Ameren Missouri can choose at that time whether or not to proceed with the Project. Consequently, the BTA protects Ameren Missouri in the unlikely circumstance that interconnection costs are so high that a different means of complying with the RES may be appropriate.

Q. Please address the risks associated with land control.

A. Land control is an essential component of developing the Project. As of today, EDF has acquired *****_____***** of the land rights it needs for the turbine sites. However, it does not have all of the land rights it needs for the gen-tie line and for one collection circuit for the Project. Until the gen-tie line and collection circuit property rights are acquired, which EDF anticipates will occur prior to November 1, 2018, EDF retains the right to terminate the BTA.

Q. Please address the risks associated with PTC value qualification.

A. As mentioned earlier in my testimony, an important step to qualify for the full PTC value is to incur by no later than December 31, 2016, 5% of the qualified value

of the project, including through the purchase of wind generator components that will be used in the Project and having title transferred and delivery within a specified time period. The other main aspect of receiving 100% of the PTC value is that the Project must be placed in service by December 31, 2020.

Q. How has the Company mitigated that risk?

A. In addition to its internal due diligence, the Company has also hired a reputable external law firm to provide a legal opinion that the Project meets the requirements of qualification for the full PTC value including the timely purchase of 5% of the qualified project value in wind generator components. As a condition to the Company's entering the BTA, this law firm must have been able to issue a legal opinion confirming that EDF-RE has completed all steps for the Project to qualify for the 5% safe harbor to receive full value for the PTCs. We have that legal opinion.

Q. Please address the risks associated with project construction and PTC value retention.

A. Wind generation is no longer a nascent industry in the United States given that approximately 89,000 MW of projects have already been constructed. The construction process is therefore well known. However, as with any large construction project, there are sometimes issues that need to be resolved. In the case of wind generation, these issues may include concerns from specific land owners, differences regarding scope of work, force majeure, delay in transmission studies, permitting, negotiating project procurement and construction agreements, procurement of long lead time materials, etc. An important aspect of receiving full PTC value is that the Project must be completed by the end of 2020, unless certain events occur that are excusable under the Internal Revenue Service Code. The main

difference in constructing a wind generation project in the normal course as compared to completing one by the end of 2020, is the schedule risk associated with ensuring that the Project is placed in service by the end of 2020.

Q. How has the Company mitigated that risk?

A. The BTA places the construction and schedule risk for completion of the Project by the end of 2020 on EDF-RE. The Project must have a capacity of at least ***_____*** of wind turbines placed in service, for Ameren Missouri to close by buying the LLC interests. As for any wind turbine generators ("WTGs") that do not meet the BTA's requirements to achieve Project completion by that date, Ameren Missouri has no obligation to buy them.[9]

Q. I thought the Project was for 157 MW. Are you saying it might be a ***_____* project instead?**

A. The Project specifications are to construct a 157 MW wind farm. However, the BTA's terms provide that if by the project completion deadline ***_____*** or more of wind turbines are placed in service, Ameren Missouri will buy the LLC and close the transaction. However, Ameren Missouri will not pay for the remaining WTGs (i.e., the other ***_____***) unless and until they too are placed in service, by ***_____ _____***. If that happens, Ameren Missouri will release purchase price funds withheld at closing, ***_____***, and those additional WTGs (which will have then become "compliant") will be part of the larger wind farm and used for RES compliance. This is why we are asking the Commission, in its order in this case,

[9] The BTA allows for the Project's aggregate nameplate capacity to be less than ***_____*** in certain circumstances such as force majeure.

to include permission to buy those additional WTGs if they become compliant by the ***_____*** deadline.

Q. When you earlier described the contract, you stated that Ameren Missouri would acquire 100% of the ownership interest in the LLC and would then merge the LLC into Ameren Missouri. Does this approach pose any risks to Ameren Missouri or its customers?

A. No, it does not.

Q. Please explain.

A. As I stated earlier, the LLC is a special purpose entity owned solely by EDF-RE. Its only assets and liabilities will be those acquired or incurred to construct and operate the Project. Consequently, it has no exposure to liabilities of any other project or to the operations of EDF-RE or to any of its affiliates. Moreover, under the terms of the BTA, the LLC is contractually required not to acquire any asset that is not necessary or otherwise relevant for the construction, ownership, or operation of the Project. The LLC must have fully performed all of its obligations under the BTA, including satisfaction of a number of conditions precedent, before Ameren Missouri has an obligation to buy the LLC.

Q. Why wouldn't Ameren Missouri simply buy the assets that make up the wind generation project from the LLC?

A. Buying the assets would be far more cumbersome, would create a greater likelihood of making a mistake (overlooking assets, etc.) and causing potential delays, and would provide no advantages whatsoever. As noted, the LLC was formed solely to hold the Project assets and rights. By buying the ownership interests in the LLC, Ameren

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Missouri will, of necessity, acquire the entire Project via a straightforward and less risky process.

Q. Will merging the LLC into Ameren Missouri pose any regulatory issues?

A. No. The merger is a rather simple "paper exercise" that will be accomplished by a standard agreement of a merger between the LLC (*after* Ameren Missouri has acquired it) and Ameren Missouri, coupled with appropriate filings with the Secretaries of State in Delaware and Missouri. Upon the making of those filings, the LLC will cease to exist and Ameren Missouri will own the LLC's assets (the Project) just as if Ameren Missouri had bought the assets, but without the more involved steps and risks an asset purchase can pose. Moreover, the book value of the assets on Ameren Missouri's books will be exactly the same as it would have been had Ameren Missouri simply bought the assets. And the same property accounting records will also be available for audit during all regulatory and ratemaking proceedings.

Q. I note that the Project that is the subject of this case is an approximately 157 MW project, but that the Company needs approximately 700 MW to 800 MW for RES compliance once the RES portfolio requirement increases to 15% in 2021. How will the remaining capacity be obtained?

A. 400 MW is being obtained from the High Prairie project. Also as discussed earlier, we are continuing to negotiate with developers for additional projects arising from the RFP process and presently expect to file an additional CCN application in the near future.

VI. ECONOMIC DEVELOPMENT

Q. Does the Project represent an economic development opportunity for the State of Missouri?

A. Yes, the economic impact of the Project on the state will be substantial. We anticipate that over 200 high-quality construction jobs will be created while the Project is being constructed. After construction is complete, approximately five to eight permanent jobs will be required to operate the Project. In addition, landowners in Atchison County will receive ******* _____ ******* in lease payments over the period of the Project's operation. And finally, tax collections by state and local governments will all increase as a result of the Project. In addition to these direct economic benefits, significant indirect benefits will be realized by restaurants, gas stations, hotels, stores and other businesses in the vicinity of the Project.

VII. TIMING AND SUMMARY OF RELIEF REQUESTED

Q. Please summarize the Company's request in this case.

A. The specific relief requested is set forth in the Company's Application filed concurrently with the filing of my direct testimony. In that Application and a separate Motion to Adopt Procedural Schedule, the Company proposes a schedule driven primarily by (a) the need to pay, by spring 2019, a non-refundable deposit to MISO relating to transmission interconnection studies, and (b) the need to be able to satisfy a condition precedent in the BTA relating to obtaining the requested CCN and RESRAM in time for construction to proceed on a schedule to be sure the full PTC value can be captured. In those filings, the Company proposes shortened times for responding to discovery and other

procedural milestones designed to facilitate understanding of the Project and Application by the parties and hopefully the ability to resolve this case without a contested hearing.

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 a Certificate of Public Convenience and Necessity Authorizing it to Construct a Wind Generation Facility.	)))))	File No. EA-2019-0021

AFFIDAVIT OF AJAY K. ARORA

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

Ajay K. Arora, being first duly sworn on his oath, states:

1. My name is Ajay K. Arora. I work in the City of St. Louis, Missouri, and I am employed by Union Electric Company d/b/a Ameren Missouri as Vice President of Power Operations and Energy Management.

2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of Union Electric Company d/b/a Ameren Missouri consisting of 26 pages and Schedule(s) AKA-D1-HC and AKA-D2-HC, all of which have been prepared in written form for introduction into evidence in the above-referenced docket.

3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct.

Ajay Arora
AJAY K. ARORA

Subscribed and sworn to before me this 18th day of October, 2018.

Cathleen A Dehne
Notary Public

My commission expires:
March 7, 2021

CATHLEEN A DEHNE
Notary Public – Notary Seal
St. Louis City – State of Missouri
Commission Number 17119727
My Commission Expires Mar 7, 2021