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Sponsoring Party:	Public Counsel
Case No.:	EF-2024-0021

REBUTTAL TESTIMONY

OF

JORDAN SEAVER

Submitted on Behalf of the Office of the Public Counsel

UNION ELECTRIC COMPANY
D/B/A AMEREN MISSOURI

CASE NO. EF-2024-0021

*** ***
Denotes Highly Confidential and Confidential Information that has been redacted.

February 23, 2024

PUBLIC

TABLE OF CONTENTS

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OF
JORDAN SEAVER
Union Electric Company d/b/a Ameren Missouri

CASE No. EF-2024-0021

I. INTRODUCTION

Q. What is your name and what is your business address?

A. My name is Jordan Seaver, and my business address is 200 Madison Street, Governor Office Building, Suite 650, Jefferson City, MO 65102.

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

A. I am employed by the Office of Public Counsel ("OPC") as a Policy Analyst.

Q. Have you previously testified before the Missouri Public Service Commission ("The Commission")?

A. Yes, I have previously testified before the Missouri Public Service Commission. See Schedule JS-R-1 for my past pre-filed testimony and memoranda.

Q. What are your work and educational backgrounds?

A. I have been employed as a Policy Analyst by OPC since January 2022. I have attended Michigan State University's Institute of Public Utilities ("IPU") Accounting and Ratemaking Course, as well as the National Association of Regulatory Utility Commissioners ("NARUC") Rate School. I previously worked as a Legal Assistant for Cascino Vaughan Law Offices for 7 years. I have a Master of Arts in Philosophy from the University of Wyoming, and a Bachelor of Arts in Philosophy from the University of Illinois at Chicago.

Q. What is the purpose of your Rebuttal testimony?

A. The purpose of this testimony is to explain why it is my opinion that Ameren Missouri ("Company") was imprudent with regard to Rush Island on two different occasions in responding to Company witnesses' testimony. The first case of imprudence was when the Company decided to conduct maintenance and boiler upgrades on Rush Island Units 1 and 2 without first conducting a New Source Review ("NSR") due to the resulting increased generation capacity. The second occasion of imprudence was when the Company decided

P

to forego installing flue gas desulfurization ("FGD") equipment on Rush Island Units 1 and 2 after the district court's opinion on the case brought against Ameren Missouri by the Environmental Protection Agency ("EPA"). My testimony will show that these decisions were imprudent and explain why the Commission should make a disallowance to the energy transition costs Ameren Missouri is seeking to securitize.

II. PRUDENCE ISSUES: NSR PERMIT

Q. Company witness Mark Birk testifies on page 3 of his direct testimony, "We are not aware of any utility in the country that sought NSR permits for projects like those Ameren Missouri did at Rush Island and elsewhere." Do you know of any case where the EPA determined that a utility needed a NSR permit for a project similar to Ameren Missouri's maintenance and boiler upgrades on Rush Island Units 1 and 2?

A. There is one case where a utility applied for major renovations and the state agency tasked with administering the EPA rules for New Source Performance Standards ("NSPS") ruled in a way that the EPA disagreed with. In the "Certificate and Order" of the Wisconsin Public Service Commission in case 6630-CE-133, the utility Wisconsin Electric Power Company ("WEPCO")

> "filed an amended application with the Commission for authority…to perform major renovation maintenance of Units 1 through 4 and the associated common facilities at its existing Port Washington Power Plant…It was DNR's initial determination at that time that the planned renovation maintenance proposed for Port Washington would not trigger the New Source Performance Standards…or the Prevention of Significant Deterioration (PSD) provisions of the Clean Air Act. DNR has been delegated responsibility for administering the regulatory programs under the Clean Air Act within the state and consequently submitted its proposed determination to EPA for concurrence. EPA disagreed with DNR's conclusion and on October 14, 1988, and February 15, 1989, issued determinations finding that NSPS and PSD requirements were applicable to the proposed Port Washington renovation

P

> project based primarily on the nature and the extent of the work required and EPA's estimate of the resultant increase in emissions due to restoring the currently derated units to their original rated production capacity."[1]

The details of this case show that the EPA has in the past considered major maintenance, not just new generation build, to be governed by the NSPS and the NSR rules. Furthermore, this case shows that a utility can expect the EPA to disagree with the implementation of the NSPS on behalf of the relevant state agency where the project under consideration is major maintenance that will increase the performance of a thermal generation plant. This case shows that a utility project for major maintenance to a generation facility has been subject to the NSPS and that a utility has gone through the process to determine if the EPA will require NSR permits before said major maintenance begins.

Q. On page 19 of his direct testimony Mr. Birk states that "we understood that under the Missouri SIP, a project would have to increase a unit's potential emissions in order to trigger NSR permitting requirements. None of Ameren Missouri's projects ever did that, and EPA did not contend otherwise." Are the circumstances surrounding the Rush Island maintenance and boiler upgrades similar to those related in the WEPCO case?

A. Yes, I believe so. Both of the overhauls not only allowed them to continue operating, but also increased their actual generating capacity that was lost over time due to wear and tear. The overhaul planned by Ameren Missouri was in the mid-2000s, and the WEPCO case was over 15 years prior to this in 1990. The Company had a period of over 15 years to observe that the EPA can be unpredictable with regard to its application of the rules and standards of the Clean Air Act ("CAA").

Although the decision to ask the EPA for a NSR permit for the Rush Island maintenance projects was uncertain, the WEPCO case referred to above and the behavior of the EPA should have made Ameren Missouri aware that proceeding with the maintenance projects without going to the EPA was a risk. As their own witnesses in this case make clear, that risk was apparent to the Company at the time of the maintenance projects and afterwards. In Mr. Birk's

[1] 1990 Wisc. PUC LEXIS 48, *48, pp 1-2.

testimony he states that the "EPA kept flip-flopping on what was or was not an NSR violation."[2] The Company's witnesses emphasize that the EPA's enforcement of certain standards, or its reading of certain statutes, was changing according to the change in Presidential administration.

Furthermore, this volatility in the EPA's reading and enforcement of the CAA coincided with an increased focus on the emissions from coal generating facilities. Given that Ameren Missouri could not have been unaware of either the increasing national negativity towards coal generating facilities or the changing policies of the EPA, it should have been aware that prior cases, like the WEPCO case, were affecting how large maintenance projects on coal generating facilities were being measured according to the CAA. And indeed, it would seem from Company witness Jeffrey Holmstead's direct testimony that the entire electricity industry knew about this particular case. In his direct testimony, Mr. Holmstead states,

> "In September of that year, however, EPA staff evaluated the applicability of the NSR program to a project to be undertaken at a Wisconsin Electric Power Company ("WEPCO") power plant and determined that it would be a major modification. This is known as the WEPCO decision and was the first time that an existing power plant was required to get an NSR permit."[3]

Later in Mr. Holmstead's testimony he states that a new rule was developed by the EPA, which was colloquially called the "WEPCO Rule"[4].

[2] Mark Birk, Direct Testimony, EF-2024-0021, p 20.
[3] Jeffrey R. Holmstead, Direct Testimony, EF-2024-0021, p 18.
[4] *Ibid*., p 21.

P

Q. Without going into the many details involved in his explanation, what is your understanding of why it is Mr. Holmstead's belief that "there was no reason to get a [NSR] permit"[5] before going forward with the maintenance and boiler upgrades on Rush Island units 1 and 2?

A. Mr. Holmstead shows that the process to determine whether or not a NSR permit was needed for maintenance projects for coal plants was complicated, at the very least. In addition to showing this, he also insinuates that he believes it was a complicated process because his first question on page 30 is "This seems very complicated. If there is any question as to whether a project might be viewed as a 'major modification,' why wouldn't a plant owner simply get an NSR permit for it?"[6] He also discusses at great length the changes in EPA policy, in rules, and in the way that the EPA enforced aspects of the CAA throughout the period from 1990-2006.

Despite this, he says two things when explaining why Ameren Missouri did not need to seek a NSR permit: (1) it was clear that the criteria applied linearly to projects to determine if they need a NSR permit showed that the Rush Island projects didn't; and (2), that the process for requesting and receiving a NSR permit was costly and lengthy. As to the first, I don't believe that Mr. Holmstead's discussion of the history of the NSR and State Implementation Plan ("SIP") shows that Ameren Missouri obviously didn't need to get a NSR permit, and as to the second, surely the Company would have considered and been aware of the costly and lengthy process that would ensue if the EPA filed a lawsuit for a violation of the CAA. It seems that the process of obtaining a NSR permit for the Rush Island maintenance projects would have been relatively cheap and short compared to what happened as a result of the Company deciding to proceed with the projects instead of seeking a NSR permit.

[5] *Ibid*., p 30.
[6] *Ibid.*

Q. Do you believe that Ameren Missouri acted imprudently when it chose to proceed with the maintenance and boiler upgrades on Rush Island Units 1 and 2 without first seeking a NSR permit?

A. Yes, I believe that Company acted imprudently when they must have known the risks involved given the EPA's behavior over the years, the WEPCO decision and resulting rule, and the complicated procedure for determining if a NSR permit was needed for a specific maintenance project, which could have been interpreted in various ways depending on the vantage point or the goal. Knowing the general outlines of the two outcomes (i.e., obtaining a NSR permit, on the one hand, and violating the CAA on the other), the Company acted imprudently.

III. PRUDENCE ISSUES: FLUE GAS DESULFURIZATION

Q. Company witness Matt Michels states in his direct testimony that "The Continued Operation Plan reflects the cost of FGD equipment, using a range of $681 million to $941 million" and "also reflects an additional $60 million in capital expenditures for precipitator equipment improvements necessary for the efficient operation of the FGD equipment."[7] Are these costs, which total from $741 million to $1 billion, significant enough to warrant the Company's decision to go with the Early Retirement Plan?

A. The range of costs for the Continued Operation Plan does appear to be higher than the Early Retirement Plan, if we assume that the latter includes securitization of undepreciated value of the plant that is less than the lowest cost of FGD. However, what is not included in the analysis provided by Mr. Michels is the replacement of the 1,145 MW of capacity provided by Rush Island, and the dispatchability of the plant. The loss of 1,145 MW of capacity makes Ameren Missouri short on capacity and will lead to a shortage of energy if they do not acquire new generation.

The Company has filed a CCN for 4 solar facilities (case EA-2023-0286) that would be used to replace only part of the capacity of Rush Island. The facilities have a combined capacity

[7] Matt Michels, Direct Testimony, EF-2024-0021, p 4.

P

of 550 MW_{ac}. This is less than half the capacity lost by the retirement of Rush Island and comes from solar, which is not dispatchable and does not generate at night and can be affected by lack of direct sunlight. The estimated, total cost of these solar facilities in the direct testimony of Steve Wills is ***_____ ***[8], and it may be higher once the CCN is approved, as the cost of new build solar is currently increasing and could continue to increase. Both Mr. Wills and another Company witness in that case, Scott Wibbenmeyer[9], note that the costs of the solar facilities could go down by as much as 40% due to federal tax credits for renewable generating facilities. Taking the total estimated base costs in these witnesses testimony and applying the percentage reductions from federal tax credits, the total estimated cost for all the solar facilities is ***_____ ***. The cost of these solar facilities, without incorporating the purported tax benefits, is well beyond the stated cost of installing FGD and keeping Rush Island in operation. The cost of these solar facilities when we do incorporate the purported tax benefits is about the same as the average of the high and low estimates for FGD given in Mr. Michel's testimony, which is $811 million before the additional $60 million for precipitator equipment improvements. Adding that brings the total average of the high and low estimates for FGD on Rush Island to $871 million.

Q. In his direct testimony Mr. Michels states that when determining the relative economics of retiring Rush Island early with continuing to operate Rush 4 Island with FGD pollution controls he "began with the model framework and assumptions Ameren Missouri used in the development of its 2020 IRP"[10]. Are your capacity replacement cost resource dispatchability issues simply hindsight-based criticisms of Ameren Missouri's planning decisions?

A. No, I do not believe that I'm merely taking advantage of hindsight to criticize the Company's decision to retire Rush Island rather than install FGD. In responses to data requests I issued in Ameren Missouri's last general rate case (ER-2022-0337), I received two documents regarding the cost analysis for installing dry sorbent injection and FGD on both units at Rush Island (I will focus only on the estimates for FGD) which were made at the time of the district

[8] Steve Wills, Direct Testimony, EA-2023-0286, p 3.
[9] Scott Wibbenmeyer, Direct Testimony, EA-2023-0286, pp 6-7.
[10] *Ibid.*, p 3.

court case. These documents are attached to my testimony as schedules JS-R-2 CONF and JS-R-3 CONF. The opinion in the EPA v. Ameren Missouri case was filed January of 2017. The estimates in JS-R-2 CONF were provided to Ameren in 2018. According to the dollar figures, it appears that the estimates in JS-R-3 CONF were provided for Ameren in 2015. In the first document, there are 3 estimates given, one from 2010, and two with different assumptions about cost escalation from 2017. These estimates were, respectively, **_____**. In the second document, the cost estimates for FGD on both Rush Island units was **_____**. Because these estimates are all close to each other in value and were made at a time when the Company was still interested in keeping Rush Island in operation, I believe that these estimates are closer than the mid to high range for the cost estimates given in Mr. Michels' testimony. I am also unsure where the cost estimates in Mr. Michels' testimony are drawn from, as he does not state what the analysis was, or more importantly, point the reader to where it is.

These cost estimates were known to the Company in 2018, shortly after the decision handed down by the district court in the EPA lawsuit. Ameren Missouri's IRP plans out into the future not just by the year, but by decades. The IRPs are updated and can change dramatically from one decade to the next, but some of the details will be adjusted with the past IRPs used as inputs for the outputs of the future IRPs accordingly. The decision to retire Rush Island early was made after the 2020 IRP was filed, in 2021. The Company had planned on adding solar, wind, and battery facilities, along with combined cycle and combustion turbine gas plants. The bulk of their solar was to come online closer to 2039, the previous retirement date for Rush Island.

Now, in the most recent Ameren Missouri triennial IRP filing, this solar has been moved earlier to coincide with the early retirement of Rush Island. The Company would have known in 2021, which was just 3 years ago, the costs of building and purchasing 500 MW_{ac} of solar facilities, as the cost estimates would not have been significantly different than in 2023 (when the CCN for the 4 solar facilities was filed). It is also likely that the solar facilities in the CCN had been planned for some time, as electric utilities must plan years in advance to build new generation. For example, in his direct testimony in the CCN applications, Ajay Arora states

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that, "the Company's critical need to transition its generation fleet…was most recently outlined in…the documents submitted with the Company's June 22, 2022, Notice of Change in Preferred Resource Plan."[11] So, the claim that it is cheaper to retire Rush Island than to install FGD is simply inconsistent with what the Company itself has known since at least 2018.

Q. Are you alleging that the Early Retirement Plan, which includes "_____ **…of transmission infrastructure needed to ensure grid reliability post-retirement" and "the remaining undepreciated balance of the plant over 10 years and inclusion of the remaining undepreciated balance in rate base,"[12] is an imprudent decision on the Company's part?**

A. Yes, I am alleging that the Company's Early Retirement Plan laid out in Mr. Michels' testimony is an imprudent decision to make in conjunction with the CCN filing for the 4 solar facilities. The costs of installing FGD are not only lower than the costs of securitization and the solar facilities, but the future costs that will be borne by Ameren Missouri's retail customers as a direct result of Ameren Missouri's decision to retire Rush Island will be even more on top of those already higher costs. Not all of Rush Island's capacity is being replaced by the solar facilities and so more generation will need to be built or purchased. On top of the higher costs, the Early Retirement Plan also makes Ameren Missouri more vulnerable to purchasing expensive energy off the market if needed, and also makes it more likely that another expensive generating facility will have to be chosen in the near future as the best option available simply because it is needed immediately for capacity, reliability, or something similar.

In my opinion, Mr. Michels' 13-page testimony, which includes the Company's entire basis for proving that their decision to close Rush Island rather than install the FGD equipment was prudent, is wholly insufficient to support a finding that the Company's decisions were prudent. Not only does Mr. Michels not include all future costs of building generation to replace Rush Island into his analysis, but the analysis he provides in the schedules attached to

[11] Ajay K. Arora, Direct Testimony, EA-2023-0286, p 3.
[12] Matt Michels, Direct Testimony, EF-2024-0021, p 4.

his testimony include no basis or explanation to support all the assumptions he characterized as "uncertainties". The Company should have provided a far more thorough and detailed analysis to support its decisions. Since the cost of building new generation to replace the 1,145 MW is higher than it would have been to install the FGD equipment, and Ameren Missouri's other assumptions lack explanation and support, the Commission should conclude that Ameren Missouri has not met its burden to show that its decisions were prudent.

IV. DISALLOWANCE OF UNDEPRECIATED BALANCE

Q. Company witness Mitchell Lansford testifies that "the estimated principal amount of the bonds will be $515,874,361"[13]. Do you believe that this is fair to customers?

A. Given my testimony thus far, I believe that some portion of the undepreciated balance of the plant should be less. Because the prudence issues I raise above are about not only Rush Island, but also the solar CCN as a replacement for Rush Island, I think that the costs of each can be compared and a disallowance can be made from this comparison. Assuming everything in the direct testimony of Mr. Wills and Mr. Wibbenmeyer is still the case, the cost of the solar facilities is ***_____***. Using my assumptions about the cost of the FGD and why we should utilize all the cost estimates that Ameren knew about at the time that the decisions regarding Rush Island were being made, I believe that the average of the sum of the 4 estimates from the attached schedules and the 3 estimates from Mr. Michels' testimony can serve as a guide. The average of the sum of all those estimates is $727 million. The estimated cost of the solar facilities less the average estimated cost of the FGD is ***_____***, which is what I propose the Commission disallow from the undepreciated balance of the plant.

I believe this is a reasonable and conservative disallowance, because the Company has chosen a route to replace not even half of the capacity of Rush Island for more than or equal to the cost of installing FGD on Rush Island. This route will also mean that to fully replace the capacity of Rush Island the Company will need to spend at least double, if not more, than the cost to install FGD on Rush Island. And after all this, which was very apparent to the Company at the time these decisions were being made, the predicted increase in the market in

[13] Mitchell J. Lansford, Direct Testimony, EF-2024-0021, p 10.

general will decrease the value of the energy generated by Ameren Missouri's solar facilities. 2024 is expected to see an increase in solar (and some portion of battery storage) by 36.4 GW[14]. Because of the phenomenon of declining marginal value[15], the current solar facilities and future solar facilities planned in Ameren Missouri's IRP will be subject to decreasing value of the energy they produce, making the investments even more expensive from the standpoint of the value to customers.

Q. Does this conclude your rebuttal testimony?

A. Yes.

[14] Diana DiGangi, "Solar, battery storage will be 81% of new electricity generation capacity this year: EIA", 2024, https://www.utilitydive.com/news/solar-battery-capacity-generation-installation-eia/708044/. From the article: "Solar additions will contribute 58% of new electricity generation capacity this year" and "'This growth would almost double last year's 18.4 GW increase, which was itself a record for annual utility-scale solar installation in the United States.'"

[15] See Reja Amatya, Fikile Brushett, Andrew Campanella, et al., "The Future of Solar: An Interdisciplinary Study", 2015, https://energy.mit.edu/wp-content/uploads/2015/05/MITEI-The-Future-of-Solar-Energy.pdf, p 189.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Petition of Union Electric	)	
Company d/b/a Ameren Missouri for a Financing	)	
Order Authorizing the Issue of Securitized Utility	)	Case No. EF-2024-0021
Tariff Bonds for Energy Transition Costs related	)	
to Rush Island Energy Center	)	

AFFIDAVIT OF JORDAN SEAVER

STATE OF MISSOURI)
) **ss**
COUNTY OF COLE)

Jordan Seaver, of lawful age and being first duly sworn, deposes and states:

1. My name is Jordan Seaver. I am a Policy Analyst for the Office of the Public Counsel.

2. Attached hereto and made a part hereof for all purposes is my rebuttal testimony.

3. I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.

Jordan Seaver
Policy Analyst

Subscribed and sworn to me this 22nd day of February 2024.

TIFFANY HILDEBRAND
NOTARY PUBLIC - NOTARY SEAL
STATE OF MISSOURI
MY COMMISSION EXPIRES AUGUST 8, 2027
COLE COUNTY
COMMISSION #15637121

Tiffany Hildebrand
Notary Public

My Commission expires August 8, 2027.