Exhibit No. 15

Ameren – Exhibit 15
Darryl T. Sagel
Direct Testimony
File No. ER-2022-0337

Exhibit No.:	
Issue(s):	Capital Structure; Cost of Capital
Witness:	Darryl T. Sagel
Type of Exhibit:	Direct Testimony
Sponsoring Party:	Union Electric Company
File No.:	ER-2022-0337
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MISSOURI PUBLIC SERVICE COMMISSION

FILE NO. ER-2022-0337

DIRECT TESTIMONY

OF

DARRYL T. SAGEL

ON

BEHALF OF

UNION ELECTRIC COMPANY

D/B/A AMEREN MISSOURI

St. Louis, Missouri
August, 2022

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DIRECT TESTIMONY

OF

DARRYL T. SAGEL

FILE NO. ER-2022-0337

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Darryl T. Sagel. My business address is One Ameren Plaza, 1901 Chouteau Avenue, St. Louis, Missouri 63103.

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

A. I am employed by Ameren Services Company ("Ameren Services"), a wholly-owned subsidiary of Ameren Corporation ("Ameren"), as Vice President and Treasurer. I also serve as Vice President and Treasurer of Union Electric Company d/b/a Ameren Missouri ("Ameren Missouri" or "Company"). Ameren Services provides various corporate support services to Ameren's subsidiaries, including Ameren Missouri, such as accounting, legal, financial, and treasury services.

Q. What are your current job duties and responsibilities?

A. As Treasurer, I am responsible for all areas of the treasury functional area, including corporate finance, cash and investment management, credit risk management, investor relations, investor services, and corporate development. Within the areas of corporate finance, I am responsible for, among other things, managing Ameren's and its subsidiaries' capital raising and capital structures, including their short-term and long-term financing activities, such as debt and equity issuances and credit facility arrangements. I am also responsible for monitoring and managing Ameren's and its subsidiaries' liquidity positions, key credit metrics, and debt agreement compliance, overseeing relationships with credit rating agencies and banks, and monitoring capital markets for key developments, and emerging risks and opportunities, among other corporate finance-related activities.

Q. Please describe your educational and professional background.

A. See my Statement of Qualifications, which is attached as Appendix A to my direct testimony.

II. PURPOSE AND SUMMARY OF TESTIMONY

Q. What is the purpose of your direct testimony?

A. The purpose of my direct testimony is to recommend a reasonable capital structure for Ameren Missouri for ratemaking purposes and an appropriate overall fair rate of return for the Company's electric utility business. The capital structure that I recommend is based on Ameren Missouri's forecasted debt, preferred stock, and common stock balances as of December 31, 2022. The actual balances as of that date will be provided with the true-up data. My direct testimony reflects, for informational purposes, Ameren Missouri's actual capital structure as of March 31, 2022, the end of the proposed test year. In recommending a fair overall rate of return, I consider Ameren Missouri's embedded cost of long-term debt, its embedded cost of preferred stock, and the fair return on equity recommended by Ameren Missouri witness Ann Bulkley in her direct testimony in this case.

Q. Are you sponsoring any schedules in connection with your direct testimony?

A. Yes, I am sponsoring and have attached to my testimony the following schedules, which have been prepared as of or for the projected twelve months ending December 31, 2022, as appropriate:

- Schedule DTS-D1 – Capital Structure/Weighted Average Cost of Capital

- Schedule DTS-D2 – Embedded Cost of Long-Term Debt
- Schedule DTS-D3 – Cost of Short-Term Debt
- Schedule DTS-D4 – Embedded Cost of Preferred Stock

III. RATE OF RETURN AND COST OF CAPITAL CONSIDERATIONS

Q. What is the relationship between allowed rate of return and cost of capital in the context of utility ratemaking?

A. Under a traditional regulatory model, the interests of customers and a utility's shareholders may be considered "balanced" when the Missouri Public Service Commission ("Commission") authorizes a rate of return on rate base equal to the utility's cost of capital. If the authorized rate of return is less than the utility's overall cost of capital, the financial strength and stability of the utility could degrade, making it difficult for the utility to raise necessary capital on a timely basis, at a reasonable cost, and under reasonable terms. Ultimately, the utility's inability to raise sufficient capital would impair service quality, or the increased cost of capital incurred by a financially-weakened utility would result in increased rates. Customer interests are best served when the Commission-authorized rate of return is set equal to the utility's overall cost of capital.

Q. Please define weighted average cost of capital.

A. Weighted average cost of capital equals the sum of the costs of the components of an entity's capital structure, weighted by the relative contribution of each capital source to the entity's total capitalization.

Q. How did you calculate the weighted average cost of capital for Ameren Missouri?

A. As reflected in Schedule DTS-D1, I calculated Ameren Missouri's weighted average cost of capital by: (1) multiplying the relative weighting or proportion of each component of Ameren Missouri's capital structure by the cost of that component; and then (2) summing the weighted cost of each capital component.

Q. What is the primary standard for determining a fair rate of return?

A. According to the landmark *Bluefield* and *Hope* U.S. Supreme Court decisions, a utility's rates must be set at a level that allows the utility to generate revenues sufficient to: (1) maintain the financial integrity of its existing invested capital; (2) maintain its creditworthiness; and (3) attract sufficient capital on competitive terms to continue to provide a source of funds for continued investment and enable the company to meet the needs of its customers.[1] When a utility is allowed a reasonable opportunity to earn its cost of capital, it also generally has the opportunity to accomplish these objectives.

Q. From a finance perspective, why is it important that the Commission establish Ameren Missouri's rates based on its actual, overall capital structure and thus give it the opportunity to earn its cost of capital?

A. By earning its cost of capital, Ameren Missouri will generate strong cash flow and maintain the financial strength and stability necessary to, among other things, attract investment to finance the business and provide reliable, high-quality service to its customers at a reasonable cost. Strong cash flow and overall financial health allow the Company to offer an attractive and competitive, risk-adjusted return to equity investors and also to maintain strong credit metrics and investment grade credit ratings. Those strong metrics and ratings, as discussed further below, afford the Company ongoing access to debt capital at a reasonable cost and under reasonable terms and conditions.

[1] *Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923) and *Federal Power Commission v. Hope Natural Gas Company,* 320 U.S. 591 (1944).

IV. CAPITAL STRUCTURE AND CREDIT RATINGS, GENERALLY

Q. What is a utility capital structure?

A. Capital structure refers to the mix of debt and equity capital that a utility, such as Ameren Missouri, uses to finance its assets. Because they must support long-lived assets, utility capital structures tend to include long-term securities, generally a combination of common equity and long-term debt. However, there are other forms of capital, such as preferred equity (which has both equity-like and debt-like elements), that also may be components of a utility's capital structure.

Q. How do you believe the reasonableness of a public utility's capital structure should be evaluated?

A. In evaluating the reasonableness of a public utility's capital structure, one should determine whether the capital structure is consistent with the financial strength necessary for the utility to access the capital markets under reasonable terms under most economic conditions and, if so, whether the cost of capital resulting from such a structure is reasonable. While debt, relative to equity, is generally a less expensive form of capital due in part to the tax deductibility of interest expense, heightened leverage can increase a firm's probability of default and the related costs of financial distress. Beyond a certain point, dependence on debt as a source of capital increases the risk associated with a utility's cash flow, which correspondingly increases a utility's overall cost of capital.

Q. Does Ameren Missouri seek to maintain a certain capital structure?

A. Yes. Ameren Missouri's capital structure is composed of debt, preferred stock, and common equity. Ameren Missouri specifically and continuously maintains the balance of debt and equity in its capital structure to minimize its overall cost of capital and, at the same time, maintain financial strength and stability. Maintaining financial strength and stability includes supporting strong credit metrics and securing investment grade credit ratings that will allow the Company to attract new capital at a reasonable cost and on reasonable terms, and to ensure that Ameren Missouri has access to the capital markets under varying economic conditions.

Q. Why is it necessary for Ameren Missouri to attract new capital?

A. As a public utility, Ameren Missouri is required to continuously provide safe and adequate service to its customers. Adequately maintaining and updating Ameren Missouri's aging electric infrastructure as well as incremental investments necessary to transition its generation fleet to renewable generation, as outlined in its most recently filed Change in Preferred Plan, requires Ameren Missouri to make significant investments. Ameren Missouri thus requires substantial new capital investment to do this for the benefit of the Company's customers. It is essential that Ameren Missouri be able to access this new capital on a timely basis, at a reasonable cost, and under reasonable terms and conditions in order to meet these significant service and investment commitments.

Q. Why is it necessary that Ameren Missouri be able to access the capital markets during all economic conditions?

A. Ameren Missouri’s service commitments to its customers and its infrastructure investment obligations do not cease in an economic downturn. Ameren Missouri, therefore, must be able to attract the capital necessary to meet those commitments and obligations under varying economic conditions, including periods of market distress, when access to the capital markets may be severely limited for weaker-rated issuers.

Q. How does a balanced capital structure help ensure Ameren Missouri's access to the capital it needs at a reasonable cost and during market fluctuations?

A. Capital structure is one metric that credit rating agencies evaluate when assessing an issuer's credit profile and assigning a credit rating. A healthy capital structure is one that results in a reasonable balance between the overall cost of capital and the expected cost of financial distress. The capital structure recommended in my testimony reflects a reasonable balance between cost of capital and financial strength and stability. It allows Ameren Missouri to take advantage of the lower cost of debt financing without elevating the risk of default and the related costs of financial distress to an unreasonable level that would impair the creditworthiness and financial integrity of Ameren Missouri. The actual capital structure also influences other credit metrics on which credit ratings are based. Credit ratings, in turn, are used by investors to evaluate the creditworthiness of an issuer and make investment decisions.

Q. What is a credit rating?

A. A credit rating is an evaluation by a credit rating agency of a company's ability to meet its financial obligations in a timely manner. It reflects the opinion of the rating agency of the overall creditworthiness of the company based on the company's relevant business and financial risks. A credit rating can be specific to a particular security or to a particular securities issuer.

Q. Why do credit ratings matter?

A. Credit ratings have a significant effect on a company's ability to attract debt capital, and in extreme cases, whether the company can access debt capital at all. Credit ratings also impact the pricing and contractual terms at which a company may issue debt securities. This affects the cost of capital and in Ameren Missouri's case, the rates customers must pay for utility service. In general, a stronger credit rating typically enables a utility to obtain debt capital at a lower cost, to the benefit of customers.

Q. How are credit ratings determined?

A. The two primary credit rating agencies are Standard and Poor's Ratings Services ("S&P") and Moody's Investor Services ("Moody's"). In assessing a company's ability to meet its financial obligations, S&P and Moody's generally - but each to varying degrees - consider both qualitative factors affecting the company's business risk and quantitative factors affecting its financial risk.

Q. How do a company's credit metrics affect its credit ratings?

A. Credit metrics factor significantly into the credit rating agencies' evaluations of a company's credit profile and the rating agencies' assignment of credit ratings. The credit rating agencies generally deem strong credit metrics necessary to maintain investment grade credit ratings.

Q. What is an "investment grade" credit rating?

A. An investment grade credit rating is a rating of BBB- or stronger from S&P or a rating of Baa3 or stronger from Moody's. An investment grade credit rating implies a certain degree of financial strength, stability, and reasonable assurance of an issuer's ability to satisfy its debt obligations. Investment grade credit ratings, therefore, tend to support enhanced access to debt capital for a company, even when market conditions are weak. For Ameren Missouri, investment grade credit ratings provide reasonable assurance that it will be able to access the capital markets on a timely basis, at a reasonable cost, and under reasonable terms and conditions. Again, for Ameren Missouri, ongoing access to the debt capital markets benefits its customers by supporting its service obligations, and lower debt costs achievable with investment grade credit ratings contribute to lower utility rates.

Q. Does Ameren Missouri target investment grade issuer credit ratings when it maintains its capital structure?

A. Yes. As previously explained, access to sufficient capital is critical to Ameren Missouri's financial health and stability and, in turn, to the service that its customers receive and the rates customers pay for that service. Therefore, in my opinion, Ameren Missouri's issuer credit ratings should be securely investment grade (at least two notches stronger than the various ratings agencies' weakest investment grade issuer credit rating) to continue to support the financial integrity of the utility and ensure its access to necessary capital at a reasonable cost and on reasonable terms in both strong and weak markets.

Q. What are Ameren Missouri's current issuer credit ratings?

A. Currently, Ameren Missouri's issuer credit ratings at Moody's and S&P are Baa1 and BBB+, respectively. Both credit rating agencies report stable outlooks for Ameren Missouri's credit ratings.

Q. Do you consider Ameren Missouri's current issuer credit ratings to be securely investment grade?

A. Yes.

V. AMEREN MISSOURI'S ACTUAL & FORECASTED CAPITAL STRUCTURE

Q. What was Ameren Missouri's capital structure as of March 31, 2022, the end of the proposed test year in this case?

A. Table 1 shows Ameren Missouri's actual capital structure as of March 31, 2022:

Table 1

		As of March 31, 2022	
		Balance	**%**
Long-term debt	$	5,323,079,257	47.17%
Short-term debt	$	-	0.00%
Preferred stock	$	81,827,509	0.73%
Common equity	$	5,880,139,020	52.11%
Total	$	11,285,045,786	100.00%

Q. What capital structure are you recommending in this case?

A. I recommend that Ameren Missouri's actual capital structure as of the recommended true-up date of December 31, 2022, be used in this case.

Q. How do you expect Ameren Missouri's capital structure to change when the balances are trued-up through December 31, 2022?

A. Based on current projections, I expect Ameren Missouri's capital structure as of the December 31, 2022 true-up date to be as follows in Table 2:

Table 2

		As of March 31, 2022			Projected as of December 31, 2022	
		Balance	**%**		**Balance**	**%**
Long-term debt	$	5,323,079,257	47.17%	$	5,798,829,567	47.40%
Short-term debt	$	-	0.00%	$	-	0.00%
Preferred stock	$	81,827,509	0.73%	$	81,827,509	0.67%
Common equity	$	5,880,139,020	52.11%	$	6,352,433,433	51.93%
Total	$	11,285,045,786	100.00%	$	12,233,090,509	100.00%

Q. How does the recommended capital structure compare to the Company's capital structure in recent years?

A. Ameren Missouri's proposed capital structure is consistent with recent years as its expected common equity ratio as of December 31, 2022 of 51.93% is squarely within the 51.81%

- 52.51% range of such ratios between the years ended 2016 through 2019, as well as the year ended 2021. The common equity component of Ameren Missouri's year-end 2020 capital structure (at 51.26%) was modestly below the range indicated above due to the timing of the financing associated with the then-recent acquisition of two wind generations facilities.[2]

Q. How does the recommended capital structure compare to capital structure authorized by the Commission in the Company's most recent electric rate review?

A. In Ameren Missouri's most recent electric rate review, File No. ER-2021-0240, the Company's capital structure was settled as part of a Unanimous Stipulation and Agreement (the "Stipulation") dated November 24, 2021. However, as part of the Stipulation, the components of capital structure were not specifically stated, but rather were part of the "black box." The signatories did agree that for purposes of calculating Plant-in-Service Accounting ("PISA") deferrals, the Renewable Energy Standard Rate Adjustment Mechanism ("RESRAM") rates, and the Allowance for Funds Used During Construction ("AFUDC"), the Company's actual capital structure containing 51.97% equity content as of September 30, 2021 would be used.

Q. Has Ameren Missouri's business outlook or financial position meaningfully changed since the Commission reviewed the Company's capital structure in the most recent electric rate review?

A. No. There has been no significant change in the Company's business and operational strategy, its outlook, or its financial position since the last electric rate review proceeding that would justify a modification to how Ameren Missouri's capital structure used for ratemaking purposes is determined.

[2] Please see the direct testimony of Darryl Sagel from Docket ER-2021-0240 for additional information.

Q. Why do you believe that the capital structure recommended in your testimony is appropriate?

A. The capital structure recommended in my testimony reflects a reasonable balance between cost of capital and financial strength and stability. It allows Ameren Missouri to take advantage of the lower costs of debt financing without elevating the risk of default and the related costs of financial distress to an unreasonable level that would impair the creditworthiness and financial integrity of the Company.

VI. BALANCE AND EMBEDDED COST OF LONG-TERM DEBT

Q. How was the balance of long-term debt determined?

A. The long-term debt balance of $5,798,829,567 reflected in the proposed Ameren Missouri capital structure represents the projected total carrying value of the Company's long-term debt as of December 31, 2022. As detailed in Schedule DTS-D2, the carrying value of long-term debt was computed using the net proceeds method, which adjusts the face amount of long-term debt to properly account for unamortized discounts and premiums, long-term debt issuance expenses, and any gains or losses incurred in connection with long-term debt redemptions.

Q. Did you make any adjustments to Ameren Missouri's actual long-term debt balance in determining the long-term debt balance proposed in this proceeding?

A. I did not include in the proposed long-term debt balance the Company's obligations under capital leases related to the Chapter 100 financing of its Peno Creek (City of Bowling Green) and Audrain County gas-fired generating facilities. These transactions and related capital leases did not generate any proceeds, nor were they a source of new capital for the Company. This treatment is consistent with that reflected in the Company's previous rate review orders.

Q. How was the embedded cost of long-term debt determined?

A. As reflected in Schedule DTS-D2, the embedded cost of long-term debt of 3.93% was computed by dividing forecasted annualized interest expense as of December 31, 2022, by the forecasted long-term debt carrying value as of such date.

VII. BALANCE OF SHORT-TERM DEBT

Q. How was the balance of short-term debt determined?

A. The balance of short-term debt of $0 reflected in the proposed Ameren Missouri capital structure represents the forecasted average short-term debt balance for the twelve months ending December 31, 2022, net of cash and construction work in progress balances. As reflected in Schedule DTS-D3, the Company expects to have no net short-term borrowings during the period.

VIII. BALANCE AND EMBEDDED COST OF PREFERRED STOCK

Q. How was the balance of preferred stock determined?

A. The preferred stock balance of $81,827,509 reflected in Ameren Missouri's proposed capital structure reflects the expected carrying value of, and the net proceeds received for, Ameren Missouri's projected preferred stock outstanding as of December 31, 2022. The calculation of the preferred stock balance is shown in Schedule DTS-D4.

Q. How was the embedded cost of Ameren Missouri's preferred stock determined?

A. As reflected in Schedule DTS-D4, the embedded cost of preferred stock of 4.18% was computed by dividing forecasted annualized dividends by the net proceeds received for forecasted preferred stock outstanding as of December 31, 2022.

Q. Did you consider expenses incurred in connection with Ameren Missouri's issuance of preferred stock in calculating the embedded cost of this component of the Company's capital structure?

A. Yes. As reflected in Schedule DTS-D4, considered in the embedded cost of preferred stock is not only the cost of dividends, but also the cost of preferred stock issuance, including discounts, premiums, expenses, and any losses incurred in connection with redeeming prior preferred stock series. Unlike similar costs incurred in connection with the issuance and redemption of long-term debt, these expenses are not amortized over the life of the security due to the perpetual nature of preferred stock. Nonetheless, it is important and appropriate to consider these costs in order to accurately quantify the true economic cost of Ameren Missouri's preferred stock and establish a fair overall rate of return for the Company.

IX. BALANCE AND COST OF COMMON EQUITY

Q. How was the balance of Ameren Missouri's common equity determined?

A. The common equity balance of $6,352,433,433 reflected in Ameren Missouri's proposed capital structure reflects Ameren Missouri's forecasted book value of common equity as of December 31, 2022. Common equity is generally reflected net of accumulated other comprehensive income ("AOCI"), but AOCI is projected to be zero as of December 31, 2022.

Q. How was the cost of common equity determined?

A. In her testimony in this case, Ms. Bulkley states that the cost of common equity capital for Ameren Missouri's integrated electric operations is currently within the range of 9.90% to 11.25% and recommends that the Commission allow Ameren Missouri the opportunity to earn a return on common equity of 10.2%. As a consequence, in forecasting Ameren Missouri's overall weighted average cost of capital for its electric business, I have assumed a cost of common equity of 10.2%, and Ameren Missouri requests that the Commission approve a return on common equity of 10.2% in this case.

X. FAIR RATE OF RETURN

Q. What do you propose is a fair overall rate of return for Ameren Missouri in this case?

A. I believe a return of 7.186%, which is equivalent to Ameren Missouri's forecasted weighted average cost of capital as of December 31, 2022, is fair and reasonable. The calculation of the Company's forecasted weighted average cost of capital, considering the debt, preferred stock, and common equity balances and costs set forth above, is reflected in Schedule DTS-D1.

Q. Does this conclude your direct testimony?

A. Yes, it does.

Union Electric Company d/b/a Ameren Missouri
Capital Structure/Weighted Average Cost of Capital

Projected at 12/31/2022:

CAPITAL COMPONENT	AMOUNT	PERCENT OF TOTAL	COST	WEIGHTED COST
Long-Term Debt	$5,798,829,567	47.403%	3.926%	1.861%
Short-Term Debt	$0	0.000%	0.000%	0.000%
Preferred Stock	$81,827,509	0.669%	4.180%	0.028%
Common Equity	$6,352,433,433	51.928%	10.200%	5.297%
TOTAL	**$12,233,090,509**	**100.000%**		**7.186%**

Union Electric Company d/b/a Ameren Missouri
Embedded Cost of Long-Term Debt

Projected at December 31, 2022

					FACE AMOUNT	UNAMORTIZED BALANCES			CARRYING	ANNUALIZED	ANNUALIZED AMORTIZATION			ANNUALIZED	EMBEDDED
SERIES	COUPON (a)	ISSUED	MATURITY	PRINCIPAL	OUTSTANDING	DISC/(PREM)	ISSUE EXP.	LOSS	VALUE	COUPON INT.	DISC/(PREM)	ISSUE EXP	LOSS	EXPENSE	COST
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
Senior Secured Notes	3.500%	04-Apr-14	15-Apr-24	$350,000,000	$350,000,000	$8,095	$363,420			$12,250,000	$6,281	$290,736			
Senior Secured Notes	2.950%	15-Jun-17	15-Jun-27	$400,000,000	$400,000,000	$581,004	$1,514,808			$11,800,000	$130,400	$336,624			
First Mortgage Bonds	3.500%	06-Mar-19	15-Mar-29	$450,000,000	$450,000,000	$236,770	$2,742,884			$15,750,000	$38,155	$444,792			
First Mortgage Bonds	2.950%	20-Mar-20	15-Mar-30	$465,000,000	$465,000,000	$288,551	$2,849,076			$13,717,500	$40,046	$392,976			
First Mortgage Bonds	2.150%	22-Jun-21	15-Mar-32	$525,000,000	$525,000,000	$490,923	$3,832,966			$11,287,500	$53,329	$411,672			
Senior Secured Notes	5.500%	10-Mar-03	15-Mar-34	$184,000,000	$184,000,000	$742,588	$652,860			$10,120,000	$66,270	$58,032			
Senior Secured Notes	5.300%	21-Jul-05	01-Aug-37	$300,000,000	$300,000,000	$463,074	$1,358,875			$15,900,000	$31,754	$93,180			
Senior Secured Notes	8.450%	20-Mar-09	15-Mar-39	$350,000,000	$350,000,000	$629,877	$1,883,115			$29,575,000	$38,868	$115,884			
Senior Secured Notes	3.900%	11-Sep-12	15-Sep-42	$485,000,000	$485,000,000	$1,675,075	$3,181,251			$18,915,000	$85,005	$161,076			
Senior Secured Notes	3.650%	06-Apr-15	15-Apr-45	$250,000,000	$250,000,000	$437,325	$2,073,522			$9,125,000	$19,621	$93,192			
Senior Secured Notes	3.650%	23-Jun-16	15-Apr-45	$150,000,000	$150,000,000	$579,714	$1,360,098			$5,475,000	$26,009	$61,128			
First Mortgage Bonds	4.000%	06-Apr-18	01-Apr-48	$425,000,000	$425,000,000	$1,549,595	$3,815,982			$17,000,000	$61,370	$151,128			
First Mortgage Bonds	3.250%	01-Oct-19	01-Oct-49	$330,000,000	$330,000,000	$1,009,278	$3,144,516			$10,725,000	$37,730	$117,552			
First Mortgage Bonds	2.625%	09-Oct-20	15-Mar-51	$550,000,000	$550,000,000	$2,436,553	$5,294,502			$14,437,500	$86,385	$187,416			
First Mortgage Bonds	3.900%	01-Apr-22	01-Apr-52	$525,000,000	$525,000,000	$1,259,213	$5,307,656			$20,475,000	$43,050	$181,458			
Environmental Improvement, Series 1998A	2.900%	04-Sep-98	01-Sep-33	$60,000,000	$60,000,000		$497,408			$1,740,000		$46,632			
Environmental Improvement, Series 1998B	2.900%	04-Sep-98	01-Sep-33	$50,000,000	$50,000,000		$417,920			$1,450,000		$39,180			
Environmental Improvement, Series 1998C	2.750%	04-Sep-98	01-Sep-33	$50,000,000	$50,000,000		$418,048			$1,375,000		$39,192			
TOTAL LONG-TERM DEBT				**$5,899,000,000**	**$5,899,000,000**	**$12,387,635**	**$40,708,907**	**$47,073,891**	**$5,798,829,567**	**$221,117,500**	**$764,273**	**$3,221,850**	**$2,569,104**	**$227,672,727**	**3.926%**

Carrying Value = Face Amount Outstanding less Unamortized Discount, Issuance Expenses, and Loss on Reacquired Debt
C10 = C6 - C7 - C8 - C9
Annualized Expense = Annual Coupon Interest plus Annual Amortization of Discount, Issuance Expenses, and Loss on Reacquired Debt
C15 = C11 + C12 + C13 + C14
Embedded Cost = Annualized Expense divided by Carrying Value
C16 = C15 / C10

Schedule DTS-D2

Union Electric Company d/b/a Ameren Missouri
Projected Cost of Short-term Debt

MONTH C1	BALANCE OF SHORT-TERM DEBT (a) C2	BALANCE OF TOTAL CWIP C3	BALANCE OF CWIP ACCRUING AFUDC (b) C4	NET AMOUNT OUTSTANDING C5	INTEREST RATE C6
January 2022	$430,466,414	$728,706,499	$733,490,092	$0	--
February	$429,050,000	$737,473,627	$756,270,525	$0	--
March	$527,549,000	$742,460,178	$775,555,034	$0	--
April	$92,350,000	$961,652,440	$960,690,788	$0	--
May	$219,150,000	$907,571,903	$906,664,331	$0	--
June	$253,862,749	$830,577,092	$829,746,515	$0	--
July	$160,380,348	$883,079,598	$882,196,518	$0	--
August	$31,695,602	$942,983,090	$942,040,107	$0	--
September	$8,376,122	$966,052,602	$965,086,549	$0	--
October	$0	$1,104,894,912	$1,103,790,017	$0	--
November	$0	$1,049,566,761	$1,048,517,194	$0	--
December	$52,892,799	$696,478,305	$695,781,827	$0	
AVERAGE	**$183,814,420**	**$879,291,417**	**$883,319,125**	**$0**	

C5 Net Amount Outstanding = Balance of Short-Term Debt less Balance of CWIP Accruing AFUDC
C5 = C2 - C4

Shaded figures represent estimates.
(a) Short-term debt amounts are net of cash and short-term investments. Negative amounts are excluded.

Schedule DTS-D3

Union Electric Company d/b/a Ameren Missouri
Embedded Cost of Preferred Stock

Projected at December 31, 2022

SERIES, TYPE, PAR C1	DIVIDEND C2	ISSUED C3	MATURITY C4	SHARES OUTSTANDING C5	PAR ISSUED/ OUTSTANDING C6	PREMIUM C7	ISSUANCE EXPENSE/DISCOUNT C8	NET PROCEEDS C9	ANNUAL DIVIDEND C10	EMBEDDED COST C11
$3.50 Series, Perpetual, $100 par	$3.500	01-May-46	-	130,000	$13,000,000	($910,000)	$252,772	$13,657,228	$455,000	
$3.70 Series, Perpetual, $100 par	$3.700	01-Oct-45	-	40,000	$4,000,000	($70,000)	$69,396	$4,000,604	$148,000	
$4.00 Series, Perpetual, $100 par	$4.000	01-Nov-49	-	150,000	$15,000,000	($384,000)	$326,896	$15,057,104	$600,000	
$4.30 Series, Perpetual, $100 par	$4.300	01-Jul-46	-	40,000	$4,000,000			$4,000,000	$172,000	
$4.50 Series, Perpetual, $100 par	$4.500	01-May-41	-	213,595	$21,359,500	($825,000)	$440,294	$21,744,206	$961,178	
$4.56 Series, Perpetual, $100 par	$4.560	01-Nov-63	-	200,000	$20,000,000	($266,000)	$297,633	$19,968,367	$912,000	
$4.75 Series, Perpetual, $100 par	$4.750	01-Oct-49	-	20,000	$2,000,000			$2,000,000	$95,000	
$5.50 Series, Perpetual, $100 par	$5.500	01-Oct-41	-	14,000	$1,400,000			$1,400,000	$77,000	
TOTAL PREFERRED STOCK					**$80,759,500**	**($2,455,000)**	**$1,386,991**	**$81,827,509**	**$3,420,178**	**4.180%**

Issuance expenses, discount/premium, and any loss incurred in acquiring/redeeming prior series are not amortized due to the perpetual nature of the company's preferred stock

Net Proceeds = Par Value Outstanding plus Premium less Issuance Expense and Discount
C9 = C6 + C7 - C8
Embedded Cost = Annual Dividend divided by Net Proceeds
C11 = C10 / C9

Schedule DTS-D4

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Adjust Its Revenues for Electric Service.	)))	Case No. ER-2022-0337

AFFIDAVIT OF DARRYL T. SAGEL

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

Darryl T. Sagel, being first duly sworn states:

My name is Darryl T. Sagel, 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.

Darryl T. Sagel
Darryl T. Sagel

Sworn to me this __1st__ day of ___August__________, 2022.