

**MISSOURI PUBLIC SERVICE COMMISSION**

**STAFF REPORT**

**COST OF SERVICE**

**APPENDIX 2**

**Support for Staff  
Cost of  
Capital Recommendations**

**UNION ELECTRIC COMPANY,  
d/b/a Ameren Missouri**

**CASE NO. GR-2021-0241**

*Jefferson City, Missouri  
September 2021*

**AN ANALYSIS OF THE COST OF CAPITAL**

**FOR**

**AMEREN MISSOURI**

**CASE NO. GR-2021-0241**

**APPENDIX 2**

**SCHEDULES**

**BY**

**Seung Joun Won, PhD**

**Financial Analysis**

**MISSOURI PUBLIC SERVICE COMMISSION**

**September 3, 2021**

**Ameren Missouri**  
**Case No. GR-2021-0241**

**List of Schedules**

<b>Schedule</b>	<b>Description of Schedule</b>
1	List of Schedules
2-1	Federal Reserve Discount Rates and Federal Reserve Funds Rates Changes
2-2	Graph of Federal Reserve Discount Rates and Federal Funds Rates Changes
3-1	Rate of Inflation
3-2	Graph of Rate of Inflation
4-1	Average Yields on Moody's Public Utility Bonds
4-2	Average Yields on Thirty-Year U.S. Treasury Bonds
4-3	Graph of Average Yields on Mergent's Public Utility Bonds and Thirty-Year U.S. Treasury Bonds
4-4	Graph of Monthly Spreads Between Yields on Moody's Public Utility Bonds and 30-Year U.S. Treasury Bonds
4-5	Graph of Average Yields on A and BBB+ Utility Bonds
5-1	Historical Consolidated Capital Structures (Dollar)
5-2	Historical Consolidated Capital Structures (Percentage)
6	Capital Structure
7	Rate Making Cost of Long-Term Debt
8	Rate Making Cost of Preferred Stock
9	Criteria for Selecting Comparable Utility Companies
10	Comparable Utility Companies
11	Historical and Projected Growth Rates
12	Average High / Low Stock Price
13	DCF Model Analysis of COE Estimate 2017 and 2020
14	CAPM Analysis of COE Estimate 2017 and 2020
15	Return on Equity
16	Rate of Return
17	Authorized Return on Equity

**Ameren Missouri  
Case No. GR-2021-0241**

**Federal Reserve Discount Rates Changes and Federal Reserve Funds Rates Changes**

Date	Federal Reserve Discount Rate	Federal Reserve Funds Rate	Date	Federal Reserve Discount Rate	Federal Reserve Funds Rate
01/01/83	8.50%		01/04/01	5.50%	6.00%
12/31/83	8.50%		01/31/01	5.00%	5.50%
04/09/84	9.00%		03/20/01	4.50%	5.00%
11/21/84	8.50%		04/18/01	4.00%	4.50%
12/24/84	8.00%		05/15/01	3.50%	4.00%
05/20/85	7.50%		06/27/01	3.25%	3.75%
03/07/86	7.00%		08/21/01	3.00%	3.50%
04/21/86	6.50%		09/17/01	2.50%	3.00%
07/11/86	6.00%		10/02/01	2.00%	2.50%
08/21/86	5.50%		11/06/01	1.50%	2.00%
09/04/87	6.00%		12/11/01	1.25%	1.75%
08/09/88	6.50%		11/06/02	0.75%	1.25%
02/24/89	7.00%		01/09/03	2.25%	** 1.25%
07/13/90		8.00% *	06/25/03	2.00%	1.00%
10/29/90		7.75%	06/30/04	2.25%	1.25%
11/13/90		7.50%	08/10/04	2.50%	1.50%
12/07/90		7.25%	09/21/04	2.75%	1.75%
12/18/90		7.00%	11/10/04	3.00%	2.00%
12/19/90	6.50%		12/14/04	3.25%	2.25%
01/09/91		6.75%	02/02/05	3.50%	2.50%
02/01/91	6.00%	6.25%	03/22/05	3.75%	2.75%
03/08/91		6.00%	05/03/05	4.00%	3.00%
04/30/91	5.50%	5.75%	06/30/05	4.25%	3.25%
08/06/91		5.50%	08/09/05	4.50%	3.50%
09/13/91	5.00%	5.25%	09/20/05	4.75%	3.75%
10/31/91		5.00%	11/01/05	5.00%	4.00%
11/06/91	4.50%	4.75%	12/13/05	5.25%	4.25%
12/06/91		4.50%	01/31/06	5.50%	4.50%
12/20/91	3.50%	4.00%	03/28/06	5.75%	4.75%
04/09/92		3.75%	05/10/06	6.00%	5.00%
07/02/92	3.00%	3.25%	06/29/06	6.25%	5.25%
09/04/92		3.00%	08/17/07	5.75%	5.25%
01/01/93			09/18/07	5.25%	4.75%
12/31/93	No Changes	No Changes	10/31/07	5.00%	4.50%
02/04/94		3.25%	12/11/07	4.75%	4.25%
03/22/94		3.50%	01/22/08	4.00%	3.50%
04/18/94		3.75%	01/30/08	3.50%	3.00%
05/17/94	3.50%	4.25%	03/16/08	3.25%	2.25%
08/16/94	4.00%	4.75%	03/18/08	2.50%	2.25%
11/15/94	4.75%	5.50%	04/30/08	2.25%	2.00%
02/01/95	5.25%	6.00%	10/08/08	1.75%	1.50%
07/06/95		5.75%	10/28/08	1.25%	1.00%
12/19/95		5.50%	12/30/08	0.50%	0% - .25%
01/31/96	5.00%	5.25%	02/19/10	0.75%	0% - .25%
03/25/97		5.50%	12/17/15	1.00%	0.38%
12/12/97	5.00%		12/15/16	1.25%	0.54%
01/09/98	5.00%		03/16/17	1.50%	0.79%
03/06/98	5.00%		06/15/17	1.75%	1.04%
09/29/98		5.25%	12/14/17	2.00%	1.30%
10/15/98	4.75%	5.00%	03/22/18	2.25%	1.51%
11/17/98	4.50%	4.75%	06/14/18	2.50%	1.82%
06/30/99	4.50%	5.00%	09/27/18	2.75%	1.95%
08/24/99	4.75%	5.25%	12/20/18	3.00%	2.27%
11/16/99	5.00%	5.50%	08/01/19	2.75%	2.13%
02/02/00	5.25%	5.75%	09/19/19	2.50%	2.04%
03/21/00	5.50%	6.00%	10/31/19	2.25%	1.83%
05/19/00	6.00%	6.50%	03/04/20	1.75%	0.65%
01/03/01	5.75%	6.00%	03/16/20	0.25%	0.05%

\* Staff began tracking the Federal Funds Rate.

\*\*Revised discount window program begins. Reflects rate on primary credit. This revised discount window policy results in incomparability of the discount rates after January 9, 2003 to discount rates before January 9, 2003.

Source:

Federal Reserve Discount rate

<https://fred.stlouisfed.org/series/INTDSRUSM193N>

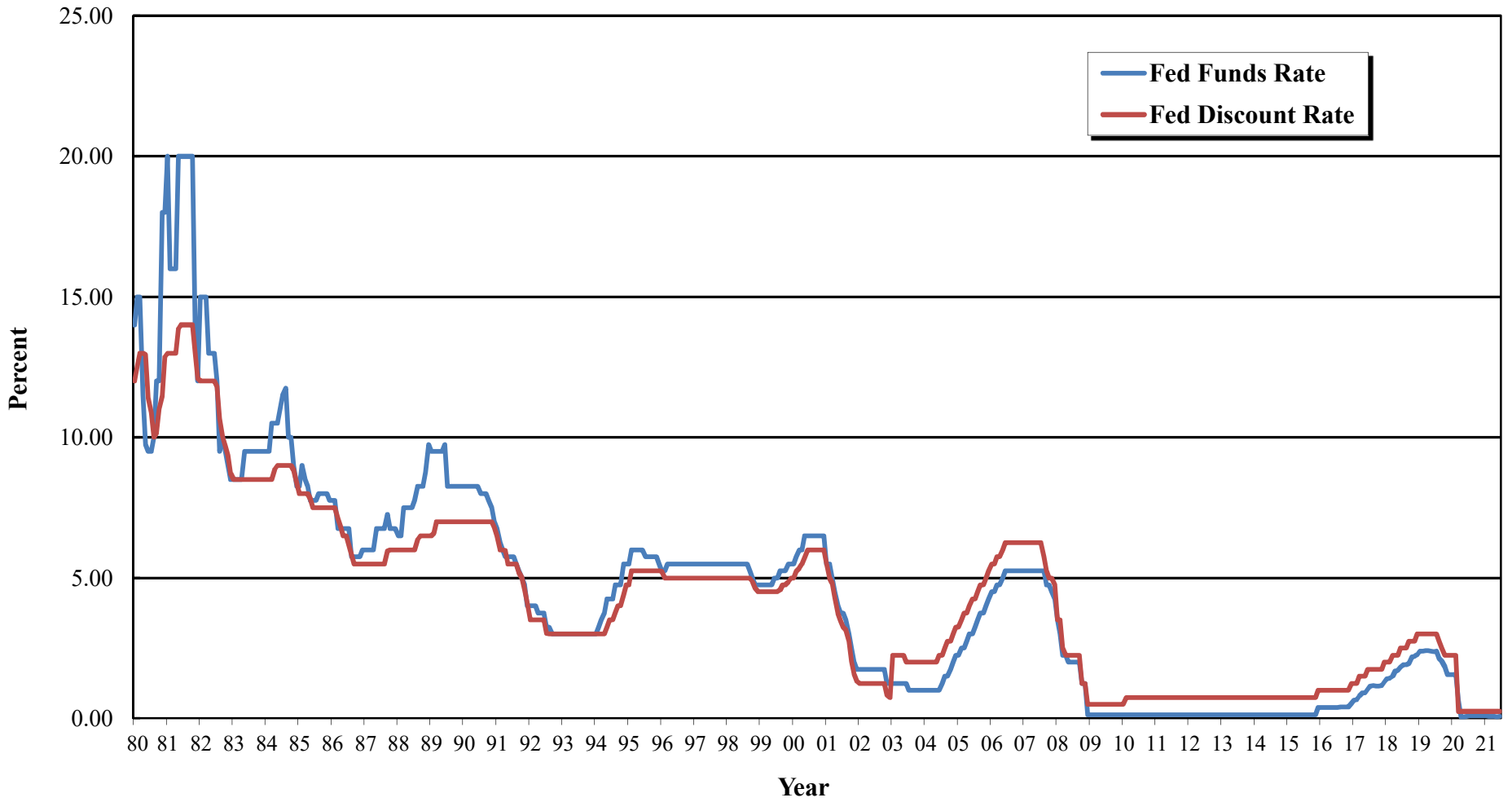
Federal Reserve Funds rate

<https://fred.stlouisfed.org/series/FEDFUNDS>

Note: Interest rates as of December 31 for each year are underlined.

Ameren Missouri  
Case No. GR-2021-0241

Federal Reserve Discount Rates and Federal Funds Rates  
1980 - 2021



**Ameren Missouri**  
**Case No. GR-2021-0241**

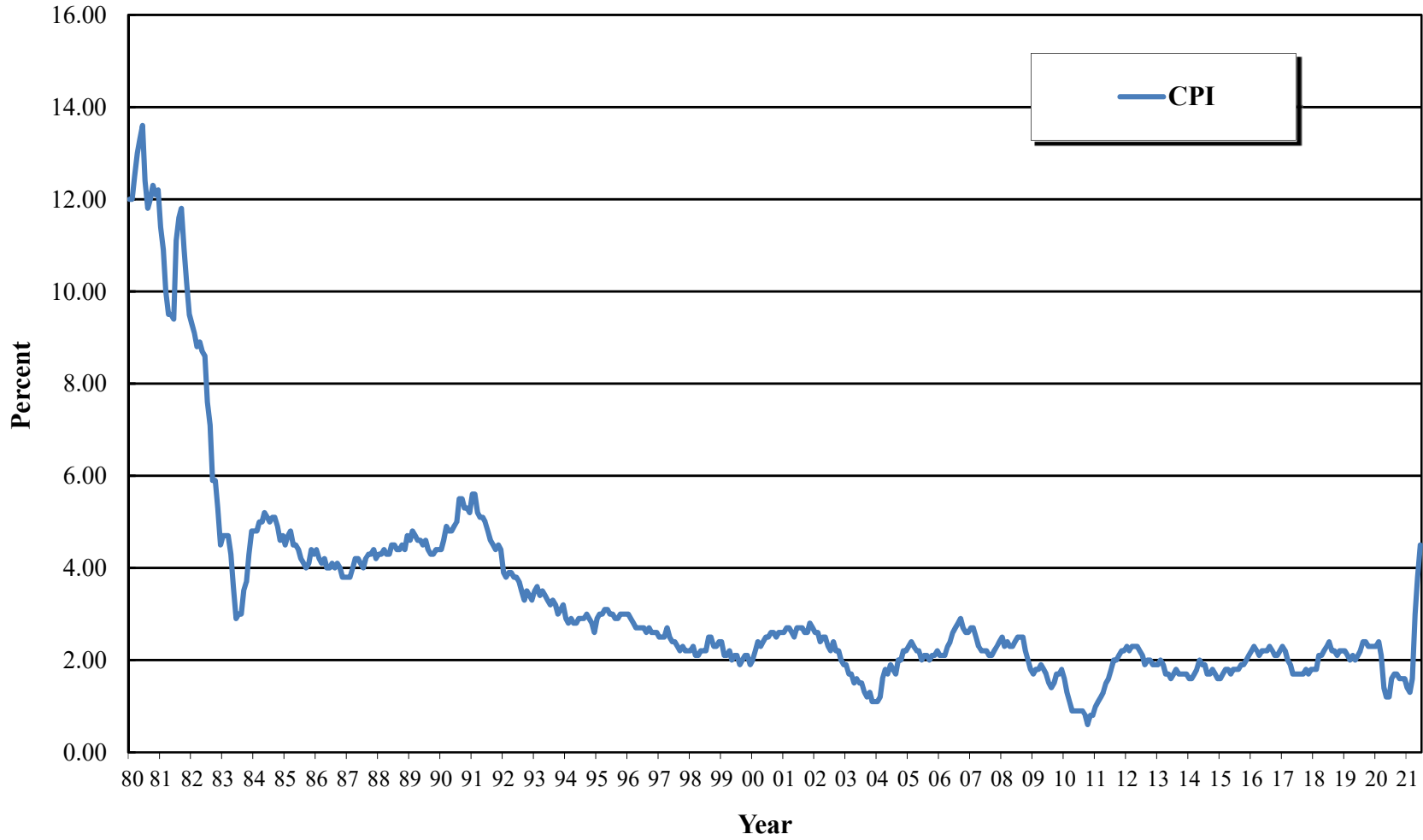
**Rate of Inflation**

Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)
Jan 1980	12.00	Jan 1986	4.40	Jan 1992	3.90	Jan 1998	2.20	Jan 2004	1.10	Jan 2010	1.60	Jan 2016	2.20
Feb	12.00	Feb	4.20	Feb	3.80	Feb	2.30	Feb	1.20	Feb	1.30	Feb	2.30
Mar	12.50	Mar	4.10	Mar	3.90	Mar	2.10	Mar	1.60	Mar	1.10	Mar	2.20
Apr	13.00	Apr	4.20	Apr	3.90	Apr	2.10	Apr	1.80	April	0.90	Apr	2.10
May	13.30	May	4.00	May	3.80	May	2.20	May	1.70	May	0.90	May	2.20
Jun	13.60	Jun	4.00	Jun	3.80	Jun	2.20	Jun	1.90	Jun	0.90	Jun	2.20
Jul	12.40	Jul	4.10	Jul	3.70	Jul	2.20	Jul	1.80	Jul	0.90	Jul	2.20
Aug	11.80	Aug	4.00	Aug	3.50	Aug	2.50	Aug	1.70	Aug	0.90	Aug	2.30
Sep	12.00	Sep	4.10	Sep	3.30	Sep	2.50	Sep	2.00	Sep	0.80	Sep	2.20
Oct	12.30	Oct	4.00	Oct	3.50	Oct	2.30	Oct	2.00	Oct	0.60	Oct	2.10
Nov	12.10	Nov	3.80	Nov	3.40	Nov	2.30	Nov	2.20	Nov	0.80	Nov	2.10
Dec	12.20	Dec	3.80	Dec	3.30	Dec	2.40	Dec	2.20	Dec	0.80	Dec	2.20
Jan 1981	11.40	Jan 1987	3.80	Jan 1993	3.50	Jan 1999	2.40	Jan 2005	2.30	Jan 2011	1.00	Jan 2017	2.30
Feb	10.90	Feb	3.80	Feb	3.60	Feb	2.10	Feb	2.40	Feb	1.10	Feb	2.20
Mar	10.00	Mar	4.00	Mar	3.40	Mar	2.10	Mar	2.30	Mar	1.20	Mar	2.00
Apr	9.50	Apr	4.20	Apr	3.50	Apr	2.20	Apr	2.20	Apr	1.30	Apr	1.90
May	9.50	May	4.20	May	3.40	May	2.00	May	2.20	May	1.50	May	1.70
Jun	9.40	Jun	4.10	Jun	3.30	Jun	2.10	Jun	2.00	Jun	1.60	Jun	1.70
Jul	11.10	Jul	4.00	Jul	3.20	Jul	2.10	Jul	2.10	Jul	1.80	July	1.70
Aug	11.60	Aug	4.20	Aug	3.30	Aug	1.90	Aug	2.10	Aug	2.00	Aug	1.70
Sep	11.80	Sep	4.30	Sep	3.20	Sep	2.00	Sep	2.00	Sep	2.00	Sep	1.70
Oct	10.90	Oct	4.30	Oct	3.00	Oct	2.10	Oct	2.10	Oct	2.10	Oct	1.80
Nov	10.20	Nov	4.40	Nov	3.10	Nov	2.10	Nov	2.10	Nov	2.20	Nov	1.70
Dec	9.50	Dec	4.20	Dec	3.20	Dec	1.90	Dec	2.20	Dec	2.20	Dec	1.80
Jan 1982	9.30	Jan 1988	4.30	Jan 1994	2.90	Jan 2000	2.00	Jan 2006	2.10	Jan 2012	2.30	Jan 2018	1.80
Feb	9.10	Feb	4.30	Feb	2.80	Feb	2.20	Feb	2.10	Feb	2.20	Feb	1.80
Mar	8.80	Mar	4.40	Mar	2.90	Mar	2.40	Mar	2.10	Mar	2.30	Mar	2.10
Apr	8.90	Apr	4.30	Apr	2.80	Apr	2.30	Apr	2.30	Apr	2.30	Apr	2.10
May	8.70	May	4.30	May	2.80	May	2.40	May	2.40	May	2.30	May	2.20
Jun	8.60	Jun	4.50	Jun	2.90	Jun	2.50	June	2.60	Jun	2.20	Jun	2.30
Jul	7.60	Jul	4.50	Jul	2.90	Jul	2.50	July	2.70	Jul	2.10	Jul	2.40
Aug	7.10	Aug	4.40	Aug	2.90	Aug	2.60	Aug	2.60	Aug	1.90	Aug	2.20
Sep	5.90	Sep	4.40	Sep	3.00	Sep	2.60	Sep	2.90	Sep	2.00	Sep	2.20
Oct	5.90	Oct	4.50	Oct	2.90	Oct	2.50	Oct	2.70	Oct	2.00	Oct	2.10
Nov	5.30	Nov	4.40	Nov	2.80	Nov	2.60	Nov	2.60	Nov	1.90	Nov	2.20
Dec	4.50	Dec	4.70	Dec	2.60	Dec	2.60	Dec	2.60	Dec	1.90	Dec	2.20
Jan 1983	4.70	Jan 1989	4.60	Jan 1995	2.90	Jan 2001	2.60	Jan 2007	2.70	Jan 2013	1.90	Jan 2019	2.20
Feb	4.70	Feb	4.80	Feb	3.00	Feb	2.70	Feb	2.70	Feb	2.00	Feb	2.10
Mar	4.70	Mar	4.70	Mar	3.00	Mar	2.70	Mar	2.50	Mar	1.90	Mar	2.00
Apr	4.30	Apr	4.60	Apr	3.10	Apr	2.60	Apr	2.30	Apr	1.70	Apr	2.10
May	3.60	May	4.60	May	3.10	May	2.50	May	2.20	May	1.70	May	2.00
Jun	2.90	Jun	4.50	Jun	3.00	Jun	2.70	Jun	2.20	Jun	1.60	Jun	2.10
Jul	3.00	Jul	4.60	Jul	3.00	Jul	2.70	Jul	2.20	Jul	1.70	Jul	2.20
Aug	3.00	Aug	4.40	Aug	2.90	Aug	2.70	Aug	2.10	Aug	1.80	Aug	2.40
Sep	3.50	Sep	4.30	Sep	2.90	Sep	2.60	Sep	2.10	Sept	1.70	Sept	2.40
Oct	3.70	Oct	4.30	Oct	3.00	Oct	2.60	Oct	2.20	Oct	1.70	Oct	2.30
Nov	4.30	Nov	4.40	Nov	3.00	Nov	2.80	Nov	2.30	Nov	1.70	Nov	2.30
Dec	4.80	Dec	4.40	Dec	3.00	Dec	2.70	Dec	2.40	Dec	1.70	Dec	2.30
Jan 1984	4.80	Jan 1990	4.40	Jan 1996	3.00	Jan 2002	2.60	Jan 2008	2.50	Jan 2014	1.60	Jan 2020	2.30
Feb	4.80	Feb	4.60	Feb	2.90	Feb	2.60	Feb	2.30	Feb	1.60	Feb	2.40
Mar	5.00	Mar	4.90	Mar	2.80	Mar	2.40	Mar	2.40	Mar	1.70	Mar	2.10
Apr	5.00	Apr	4.80	Apr	2.70	Apr	2.50	Apr	2.30	Apr	1.80	Apr	1.40
May	5.20	May	4.80	May	2.70	May	2.50	May	2.30	May	2.00	May	1.20
Jun	5.10	Jun	4.90	Jun	2.70	Jun	2.30	Jun	2.40	Jun	1.90	Jun	1.20
Jul	5.00	Jul	5.00	Jul	2.70	Jul	2.20	Jul	2.50	Jul	1.90	Jul	1.60
Aug	5.10	Aug	5.50	Aug	2.60	Aug	2.40	Aug	2.50	Aug	1.70	Aug	1.70
Sep	5.10	Sep	5.50	Sep	2.70	Sep	2.20	Sep	2.50	Sep	1.70	Sep	1.70
Oct	4.90	Oct	5.30	Oct	2.60	Oct	2.20	Oct	2.20	Oct	1.80	Oct	1.60
Nov	4.60	Nov	5.30	Nov	2.60	Nov	2.00	Nov	2.00	Nov	1.70	Nov	1.60
Dec	4.70	Dec	5.20	Dec	2.60	Dec	1.90	Dec	1.80	Dec	1.60	Dec	1.60
Jan 1985	4.50	Jan 1991	5.60	Jan 1997	2.50	Jan 2003	1.90	Jan 2009	1.70	Jan 2015	1.60	Jan 2021	1.40
Feb	4.70	Feb	5.60	Feb	2.50	Feb	1.70	Feb	1.80	Feb	1.70	Feb	1.30
Mar	4.80	Mar	5.20	Mar	2.50	Mar	1.70	Mar	1.80	Mar	1.80	Mar	1.60
Apr	4.50	Apr	5.10	Apr	2.70	Apr	1.50	Apr	1.90	Apr	1.80	Apr	3.00
May	4.50	May	5.10	May	2.50	May	1.60	May	1.80	May	1.70	May	3.80
Jun	4.40	Jun	5.00	Jun	2.40	Jun	1.50	Jun	1.70	Jun	1.80	Jun	4.50
Jul	4.20	Jul	4.80	Jul	2.40	Jul	1.50	Jul	1.50	Jul	1.80	Jul	
Aug	4.10	Aug	4.60	Aug	2.30	Aug	1.30	Aug	1.40	Aug	1.80	Aug	
Sep	4.00	Sep	4.50	Sep	2.20	Sep	1.20	Sep	1.50	Sep	1.90	Sep	
Oct	4.10	Oct	4.40	Oct	2.30	Oct	1.30	Oct	1.70	Oct	1.90	Oct	
Nov	4.40	Nov	4.50	Nov	2.20	Nov	1.10	Nov	1.70	Nov	2.00	Nov	
Dec	4.30	Dec	4.40	Dec	2.20	Dec	1.10	Dec	1.80	Dec	2.10	Dec	

Source: U.S. Dept. of Labor, Bureau of Labor Statistics, Consumer Price Index - All Urban Consumers less food and energy, Change for 12-Month Period, Bureau of Labor Statistics, <https://www.bls.gov/cpi/data.htm>

Ameren Missouri  
Case No. GR-2021-0241

**Rate of Inflation  
1980 - 2021**



**Ameren Missouri**  
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**Average Yields on Moody's Public Utility Bonds**

Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)
Jan 1980	12.12	Jan 1986	10.66	Jan 1992	8.67	Jan 1998	7.03	Jan 2004	6.23	Jan 2010	5.83	Jan 2016	4.62
Feb	13.48	Feb	10.16	Feb	8.77	Feb	7.09	Feb	6.17	Feb	5.94	Feb	4.44
Mar	14.33	Mar	9.33	Mar	8.84	Mar	7.13	Mar	6.01	Mar	5.90	Mar	4.40
Apr	13.50	Apr	9.02	Apr	8.79	Apr	7.12	Apr	6.38	April	5.87	Apr	4.16
May	12.17	May	9.52	May	8.72	May	7.11	May	6.68	May	5.59	May	4.06
Jun	11.87	Jun	9.51	Jun	8.64	Jun	6.99	Jun	6.53	Jun	5.62	Jun	3.93
Jul	12.12	Jul	9.19	Jul	8.46	Jul	6.99	Jul	6.34	Jul	5.41	Jul	3.70
Aug	12.82	Aug	9.15	Aug	8.34	Aug	6.96	Aug	6.18	Aug	5.10	Aug	3.73
Sep	13.29	Sep	9.42	Sep	8.32	Sep	6.88	Sep	6.01	Sep	5.10	Sep	3.80
Oct	13.53	Oct	9.39	Oct	8.44	Oct	6.88	Oct	5.95	Oct	5.20	Oct	3.90
Nov	14.07	Nov	9.15	Nov	8.53	Nov	6.96	Nov	5.97	Nov	5.45	Nov	4.21
Dec	14.48	Dec	8.96	Dec	8.36	Dec	6.84	Dec	5.93	Dec	5.64	Dec	4.39
Jan 1981	14.22	Jan 1987	8.77	Jan 1993	8.23	Jan 1999	6.87	Jan 2005	5.80	Jan 2011	5.64	Jan 2017	4.24
Feb	14.84	Feb	8.81	Feb	8.00	Feb	7.00	Feb	5.64	Feb	5.73	Feb	4.25
Mar	14.86	Mar	8.75	Mar	7.85	Mar	7.18	Mar	5.86	Mar	5.62	Mar	4.30
Apr	15.32	Apr	9.30	Apr	7.76	Apr	7.16	Apr	5.72	Apr	5.62	Apr	4.19
May	15.84	May	9.82	May	7.78	May	7.42	May	5.60	May	5.38	May	4.19
Jun	15.27	Jun	9.87	Jun	7.68	Jun	7.70	Jun	5.39	Jun	5.32	Jun	4.01
Jul	15.87	Jul	10.01	Jul	7.53	Jul	7.66	Jul	5.50	Jul	5.34	July	4.06
Aug	16.33	Aug	10.33	Aug	7.21	Aug	7.86	Aug	5.51	Aug	4.78	Aug	3.92
Sep	16.89	Sep	11.00	Sep	7.01	Sep	7.87	Sep	5.54	Sep	4.61	Sep	3.93
Oct	16.76	Oct	11.32	Oct	6.99	Oct	8.02	Oct	5.79	Oct	4.66	Oct	3.97
Nov	15.50	Nov	10.82	Nov	7.30	Nov	7.86	Nov	5.88	Nov	4.37	Nov	3.88
Dec	15.77	Dec	10.99	Dec	7.33	Dec	8.04	Dec	5.83	Dec	4.47	Dec	3.85
Jan 1982	16.73	Jan 1988	10.75	Jan 1994	7.31	Jan 2000	8.22	Jan 2006	5.77	Jan 2012	4.48	Jan 2018	3.91
Feb	16.72	Feb	10.11	Feb	7.44	Feb	8.10	Feb	5.83	Feb	4.47	Feb	4.15
Mar	16.07	Mar	10.11	Mar	7.83	Mar	8.14	Mar	5.98	Mar	4.59	Mar	4.21
Apr	15.82	Apr	10.53	Apr	8.20	Apr	8.14	Apr	6.28	Apr	4.54	Apr	4.24
May	15.60	May	10.75	May	8.32	May	8.56	May	6.39	May	4.36	May	4.36
Jun	16.18	Jun	10.71	Jun	8.31	Jun	8.22	June	6.39	Jun	4.26	Jun	4.37
Jul	16.04	Jul	10.96	Jul	8.47	Jul	8.17	July	6.37	Jul	4.12	Jul	4.35
Aug	15.22	Aug	11.09	Aug	8.41	Aug	8.06	Aug	6.20	Aug	4.18	Aug	4.33
Sep	14.56	Sep	10.56	Sep	8.65	Sep	8.15	Sep	6.03	Sep	4.17	Sep	4.35
Oct	13.88	Oct	9.92	Oct	8.88	Oct	8.08	Oct	6.01	Oct	4.04	Oct	4.41
Nov	13.58	Nov	9.89	Nov	9.00	Nov	8.03	Nov	5.82	Nov	3.95	Nov	4.65
Dec	13.55	Dec	10.02	Dec	8.79	Dec	7.79	Dec	5.83	Dec	4.10	Dec	4.51
Jan 1983	13.46	Jan 1989	10.02	Jan 1995	8.77	Jan 2001	7.76	Jan 2007	5.96	Jan 2013	4.24	Jan 2019	4.48
Feb	13.60	Feb	10.02	Feb	8.56	Feb	7.69	Feb	5.91	Feb	4.29	Feb	4.35
Mar	13.28	Mar	10.16	Mar	8.41	Mar	7.59	Mar	5.87	Mar	4.29	Mar	4.26
Apr	13.03	Apr	10.14	Apr	8.30	Apr	7.81	Apr	6.01	Apr	4.08	Apr	4.18
May	13.00	May	9.92	May	7.93	May	7.88	May	6.03	May	4.24	May	4.10
Jun	13.17	Jun	9.49	Jun	7.62	Jun	7.75	Jun	6.34	Jun	4.63	Jun	3.93
Jul	13.28	Jul	9.34	Jul	7.73	Jul	7.71	Jul	6.28	Jul	4.78	Jul	3.79
Aug	13.50	Aug	9.37	Aug	7.86	Aug	7.57	Aug	6.28	Aug	4.85	Aug	3.36
Sep	13.35	Sep	9.43	Sep	7.62	Sep	7.73	Sep	6.24	Sept	4.90	Sept	3.44
Oct	13.19	Oct	9.37	Oct	7.46	Oct	7.64	Oct	6.17	Oct	4.78	Oct	3.45
Nov	13.33	Nov	9.33	Nov	7.40	Nov	7.61	Nov	6.04	Nov	4.86	Nov	3.48
Dec	13.48	Dec	9.31	Dec	7.21	Dec	7.86	Dec	6.23	Dec	4.88	Dec	3.45
Jan 1984	13.40	Jan 1990	9.44	Jan 1996	7.20	Jan 2002	7.69	Jan 2008	6.08	Jan 2014	4.72	Jan 2020	3.34
Feb	13.50	Feb	9.66	Feb	7.37	Feb	7.62	Feb	6.28	Feb	4.64	Feb	3.16
Mar	14.03	Mar	9.75	Mar	7.72	Mar	7.83	Mar	6.29	Mar	4.64	Mar	3.59
Apr	14.30	Apr	9.87	Apr	7.88	Apr	7.74	Apr	6.36	Apr	4.52	Apr	3.31
May	14.95	May	9.89	May	7.99	May	7.76	May	6.38	May	4.37	May	3.22
Jun	15.16	Jun	9.69	Jun	8.07	Jun	7.67	Jun	6.50	Jun	4.42	Jun	3.10
Jul	14.92	Jul	9.66	Jul	8.02	Jul	7.54	Jul	6.50	Jul	4.35	Jul	2.77
Aug	14.29	Aug	9.84	Aug	7.84	Aug	7.34	Aug	6.48	Aug	4.28	Aug	2.76
Sep	14.04	Sep	10.01	Sep	8.01	Sep	7.23	Sep	6.59	Sep	4.40	Sep	2.88
Oct	13.68	Oct	9.94	Oct	7.76	Oct	7.43	Oct	7.70	Oct	4.24	Oct	2.98
Nov	13.15	Nov	9.76	Nov	7.48	Nov	7.31	Nov	7.80	Nov	4.29	Nov	2.89
Dec	12.96	Dec	9.57	Dec	7.58	Dec	7.20	Dec	6.87	Dec	4.18	Dec	2.80
Jan 1985	12.88	Jan 1991	9.56	Jan 1997	7.79	Jan 2003	7.13	Jan 2009	6.77	Jan 2015	3.83	Jan 2021	2.94
Feb	13.00	Feb	9.31	Feb	7.68	Feb	6.92	Feb	6.72	Feb	3.91	Feb	3.13
Mar	13.66	Mar	9.39	Mar	7.92	Mar	6.80	Mar	6.85	Mar	3.97	Mar	3.48
Apr	13.42	Apr	9.30	Apr	8.08	Apr	6.68	Apr	6.90	Apr	3.96	Apr	3.33
May	12.89	May	9.29	May	7.94	May	6.35	May	6.83	May	4.38	May	3.36
Jun	11.91	Jun	9.44	Jun	7.77	Jun	6.21	Jun	6.54	Jun	4.60	Jun	3.19
Jul	11.88	Jul	9.40	Jul	7.52	Jul	6.54	Jul	6.15	Jul	4.63	Jul	
Aug	11.93	Aug	9.16	Aug	7.57	Aug	6.78	Aug	5.80	Aug	4.54	Aug	
Sep	11.95	Sep	9.03	Sep	7.50	Sep	6.58	Sep	5.60	Sep	4.68	Sep	
Oct	11.84	Oct	8.99	Oct	7.37	Oct	6.50	Oct	5.64	Oct	4.63	Oct	
Nov	11.33	Nov	8.93	Nov	7.24	Nov	6.44	Nov	5.71	Nov	4.73	Nov	
Dec	10.82	Dec	8.76	Dec	7.16	Dec	6.35	Dec	5.86	Dec	4.69	Dec	

Source:  
<https://fred.stlouisfed.org/series/DBAA>



Ameren Missouri  
Case No. GR-2021-0241

Average Yields on Thirty-Year U.S. Treasury Bonds

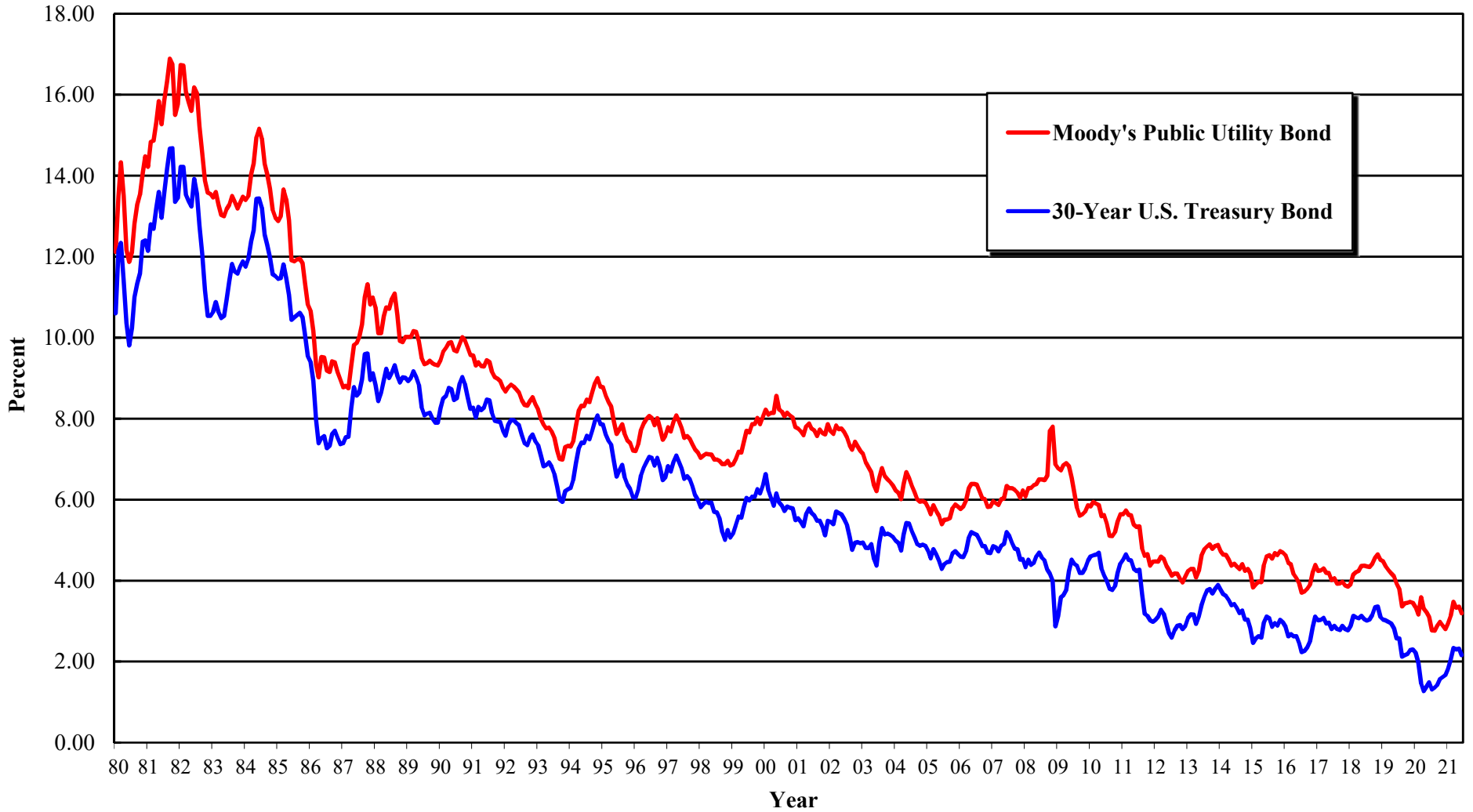
Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)
Jan 1980	10.60	Jan 1986	9.40	Jan 1992	7.58	Jan 1998	5.81	Jan 2004	4.99	Jan 2010	4.60	Jan 2016	2.86
Feb	12.13	Feb	8.93	Feb	7.85	Feb	5.89	Feb	4.93	Feb	4.62	Feb	2.62
Mar	12.34	Mar	7.96	Mar	7.97	Mar	5.95	Mar	4.74	Mar	4.64	Mar	2.68
Apr	11.40	Apr	7.39	Apr	7.96	Apr	5.92	Apr	5.14	April	4.69	Apr	2.62
May	10.36	May	7.52	May	7.89	May	5.93	May	5.42	May	4.29	May	2.63
Jun	9.81	Jun	7.57	Jun	7.84	Jun	5.70	Jun	5.41	Jun	4.13	Jun	2.45
Jul	10.24	Jul	7.27	Jul	7.60	Jul	5.68	Jul	5.22	Jul	3.99	Jul	2.23
Aug	11.00	Aug	7.33	Aug	7.39	Aug	5.54	Aug	5.06	Aug	3.80	Aug	2.26
Sep	11.34	Sep	7.62	Sep	7.34	Sep	5.20	Sep	4.90	Sep	3.77	Sep	2.35
Oct	11.59	Oct	7.70	Oct	7.53	Oct	5.01	Oct	4.86	Oct	3.87	Oct	2.50
Nov	12.37	Nov	7.52	Nov	7.61	Nov	5.25	Nov	4.89	Nov	4.19	Nov	2.86
Dec	12.40	Dec	7.37	Dec	7.44	Dec	5.06	Dec	4.86	Dec	4.42	Dec	3.11
Jan 1981	12.14	Jan 1987	7.39	Jan 1993	7.34	Jan 1999	5.16	Jan 2005	4.73	Jan 2011	4.52	Jan 2017	3.02
Feb	12.80	Feb	7.54	Feb	7.09	Feb	5.37	Feb	4.55	Feb	4.65	Feb	3.03
Mar	12.69	Mar	7.55	Mar	6.82	Mar	5.58	Mar	4.78	Mar	4.51	Mar	3.08
Apr	13.20	Apr	8.25	Apr	6.85	Apr	5.55	Apr	4.65	Apr	4.50	Apr	2.94
May	13.60	May	8.78	May	6.92	May	5.81	May	4.49	May	4.29	May	2.96
Jun	12.96	Jun	8.57	Jun	6.81	Jun	6.04	Jun	4.29	Jun	4.23	Jun	2.80
Jul	13.59	Jul	8.64	Jul	6.63	Jul	5.98	Jul	4.41	Jul	4.27	July	2.88
Aug	14.17	Aug	8.97	Aug	6.32	Aug	6.07	Aug	4.46	Aug	3.65	Aug	2.80
Sep	14.67	Sep	9.59	Sep	6.00	Sep	6.07	Sep	4.47	Sep	3.18	Sep	2.78
Oct	14.68	Oct	9.61	Oct	5.94	Oct	6.26	Oct	4.67	Oct	3.13	Oct	2.88
Nov	13.35	Nov	8.95	Nov	6.21	Nov	6.15	Nov	4.73	Nov	3.02	Nov	2.80
Dec	13.45	Dec	9.12	Dec	6.25	Dec	6.35	Dec	4.66	Dec	2.98	Dec	2.77
Jan 1982	14.22	Jan 1988	8.83	Jan 1994	6.29	Jan 2000	6.63	Jan 2006	4.59	Jan 2012	3.03	Jan 2018	2.88
Feb	14.22	Feb	8.43	Feb	6.49	Feb	6.23	Feb	4.58	Feb	3.11	Feb	3.13
Mar	13.53	Mar	8.63	Mar	6.91	Mar	6.05	Mar	4.73	Mar	3.28	Mar	3.09
Apr	13.37	Apr	8.95	Apr	7.27	Apr	5.85	Apr	5.06	Apr	3.18	Apr	3.07
May	13.24	May	9.23	May	7.41	May	6.15	May	5.20	May	2.93	May	3.13
Jun	13.92	Jun	9.00	Jun	7.40	Jun	5.93	June	5.16	Jun	2.70	Jun	3.05
Jul	13.55	Jul	9.14	Jul	7.58	Jul	5.85	July	5.13	Jul	2.59	Jul	3.01
Aug	12.77	Aug	9.32	Aug	7.49	Aug	5.72	Aug	5.00	Aug	2.77	Aug	3.04
Sep	12.07	Sep	9.06	Sep	7.71	Sep	5.83	Sep	4.85	Sep	2.88	Sep	3.15
Oct	11.17	Oct	8.89	Oct	7.94	Oct	5.80	Oct	4.85	Oct	2.90	Oct	3.34
Nov	10.54	Nov	9.02	Nov	8.08	Nov	5.78	Nov	4.69	Nov	2.80	Nov	3.36
Dec	10.54	Dec	9.01	Dec	7.87	Dec	5.49	Dec	4.68	Dec	2.88	Dec	3.10
Jan 1983	10.63	Jan 1989	8.93	Jan 1995	7.85	Jan 2001	5.54	Jan 2007	4.85	Jan 2013	3.08	Jan 2019	3.04
Feb	10.88	Feb	9.01	Feb	7.61	Feb	5.45	Feb	4.82	Feb	3.17	Feb	3.02
Mar	10.63	Mar	9.17	Mar	7.45	Mar	5.34	Mar	4.72	Mar	3.16	Mar	2.98
Apr	10.48	Apr	9.03	Apr	7.36	Apr	5.65	Apr	4.86	Apr	2.93	Apr	2.94
May	10.53	May	8.83	May	6.95	May	5.78	May	4.90	May	3.11	May	2.82
Jun	10.93	Jun	8.27	Jun	6.57	Jun	5.67	Jun	5.20	Jun	3.40	Jun	2.57
Jul	11.40	Jul	8.08	Jul	6.72	Jul	5.61	Jul	5.11	Jul	3.61	Jul	2.57
Aug	11.82	Aug	8.12	Aug	6.86	Aug	5.48	Aug	4.93	Aug	3.76	Aug	2.12
Sep	11.63	Sep	8.15	Sep	6.55	Sep	5.48	Sep	4.79	Sept	3.79	Sept	2.16
Oct	11.58	Oct	8.00	Oct	6.37	Oct	5.32	Oct	4.77	Oct	3.68	Oct	2.19
Nov	11.75	Nov	7.90	Nov	6.26	Nov	5.12	Nov	4.52	Nov	3.80	Nov	2.28
Dec	11.88	Dec	7.90	Dec	6.06	Dec	5.48	Dec	4.53	Dec	3.89	Dec	2.30
Jan 1984	11.75	Jan 1990	8.26	Jan 1996	6.05	Jan 2002	5.45	Jan 2008	4.33	Jan 2014	3.77	Jan 2020	2.22
Feb	11.95	Feb	8.50	Feb	6.24	Feb	5.39	Feb	4.52	Feb	3.66	Feb	1.97
Mar	12.38	Mar	8.56	Mar	6.60	Mar	5.71	Mar	4.39	Mar	3.62	Mar	1.46
Apr	12.65	Apr	8.76	Apr	6.79	Apr	5.67	Apr	4.44	Apr	3.52	Apr	1.27
May	13.43	May	8.73	May	6.93	May	5.64	May	4.60	May	3.39	May	1.38
Jun	13.44	Jun	8.46	Jun	7.06	Jun	5.52	Jun	4.69	Jun	3.42	Jun	1.49
Jul	13.21	Jul	8.50	Jul	7.03	Jul	5.38	Jul	4.57	Jul	3.33	Jul	1.31
Aug	12.54	Aug	8.86	Aug	6.84	Aug	5.08	Aug	4.50	Aug	3.20	Aug	1.36
Sep	12.29	Sep	9.03	Sep	7.03	Sep	4.76	Sep	4.27	Sep	3.26	Sep	1.42
Oct	11.98	Oct	8.86	Oct	6.81	Oct	4.93	Oct	4.17	Oct	3.04	Oct	1.57
Nov	11.56	Nov	8.54	Nov	6.48	Nov	4.95	Nov	4.00	Nov	3.04	Nov	1.62
Dec	11.52	Dec	8.24	Dec	6.55	Dec	4.92	Dec	2.87	Dec	2.83	Dec	1.67
Jan 1985	11.45	Jan 1991	8.27	Jan 1997	6.83	Jan 2003	4.94	Jan 2009	3.13	Jan 2015	2.46	Jan 2021	1.82
Feb	11.47	Feb	8.03	Feb	6.69	Feb	4.81	Feb	3.59	Feb	2.57	Feb	2.04
Mar	11.81	Mar	8.29	Mar	6.93	Mar	4.80	Mar	3.64	Mar	2.63	Mar	2.34
Apr	11.47	Apr	8.21	Apr	7.09	Apr	4.90	Apr	3.76	Apr	2.59	Apr	2.30
May	11.05	May	8.27	May	6.94	May	4.53	May	4.23	May	2.96	May	2.32
Jun	10.44	Jun	8.47	Jun	6.77	Jun	4.37	Jun	4.52	Jun	3.11	Jun	2.16
Jul	10.50	Jul	8.45	Jul	6.51	Jul	4.93	Jul	4.41	Jul	3.07	Jul	
Aug	10.56	Aug	8.14	Aug	6.58	Aug	5.30	Aug	4.37	Aug	2.86	Aug	
Sep	10.61	Sep	7.95	Sep	6.50	Sep	5.14	Sep	4.19	Sep	2.95	Sep	
Oct	10.50	Oct	7.93	Oct	6.33	Oct	5.16	Oct	4.19	Oct	2.89	Oct	
Nov	10.06	Nov	7.92	Nov	6.11	Nov	5.13	Nov	4.31	Nov	3.03	Nov	
Dec	9.54	Dec	7.70	Dec	5.99	Dec	5.08	Dec	4.49	Dec	2.97	Dec	

Sources:

<http://research.stlouisfed.org/fred2/data/GS30.txt>

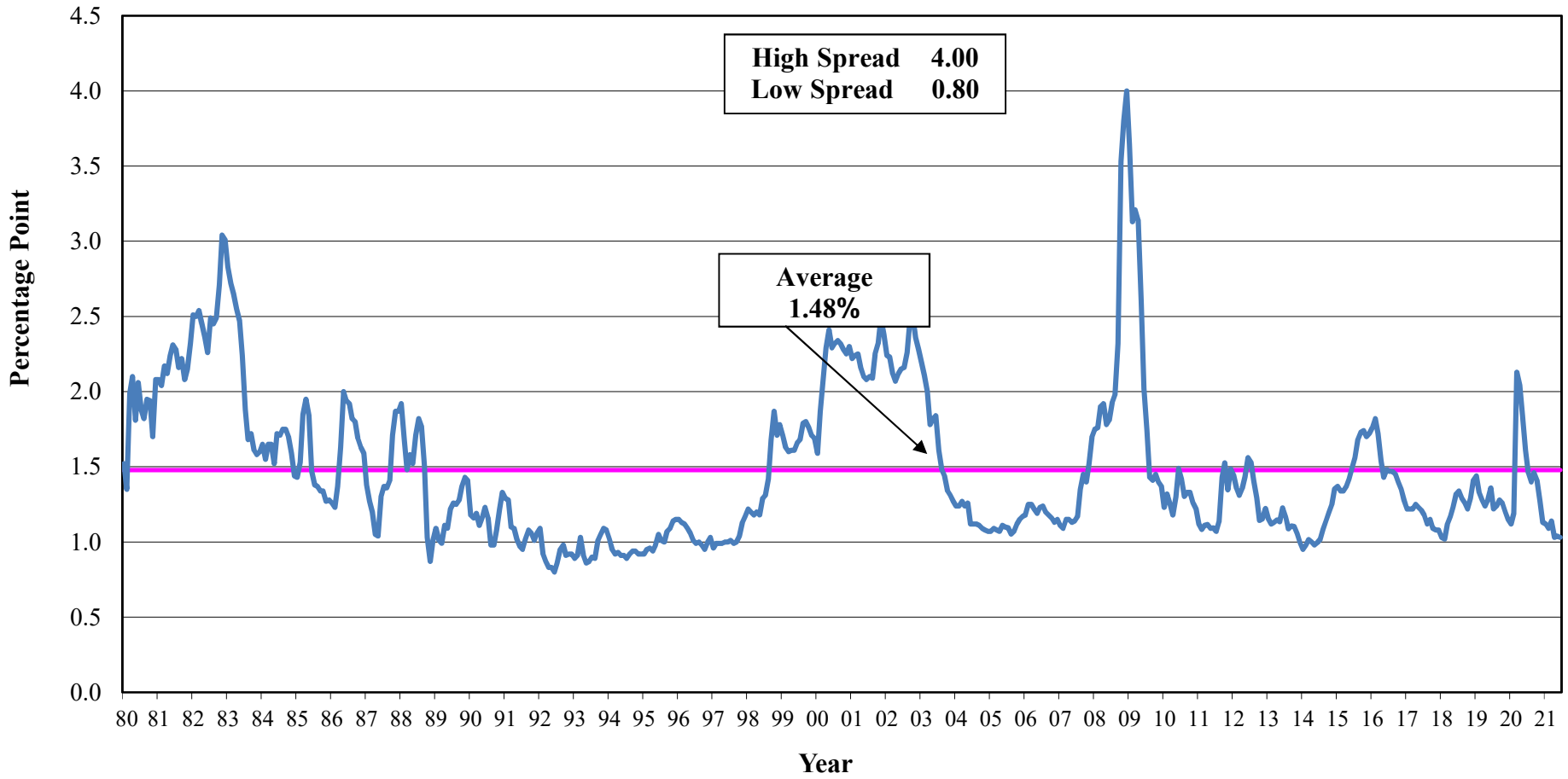
Ameren Missouri  
Case No. GR-2021-0241

Average Yields on Mergent's Public Utility Bonds and  
Thirty-Year U.S. Treasury Bonds (1980 - 2021)



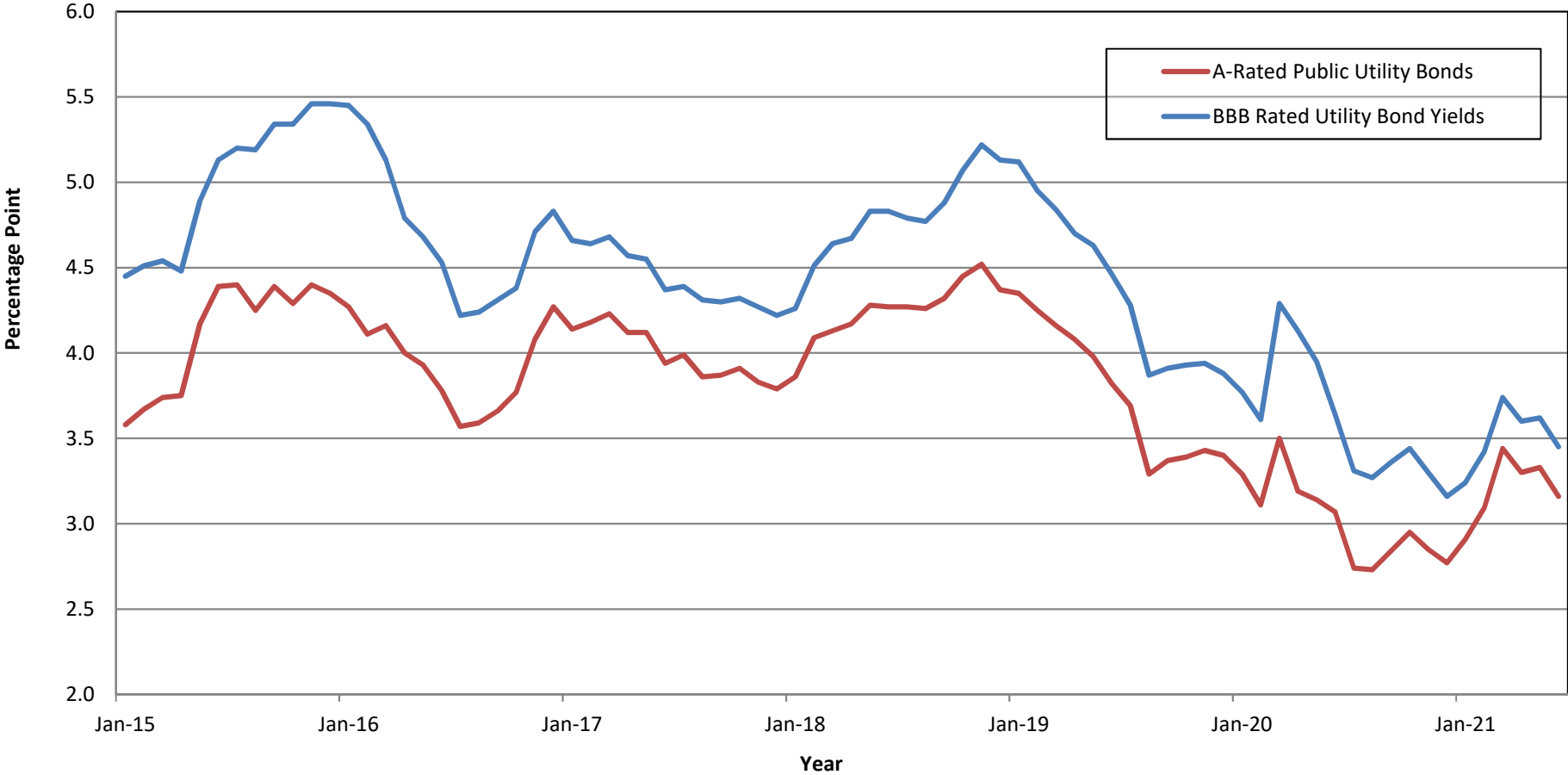
Ameren Missouri  
Case No. GR-2021-0241

Monthly Spreads Between Yields on Moody's Public Utility Bonds and  
30-Year U.S. Treasury Bonds (1980 - 2021)



Spire Missouri, Inc.  
Case No. GR-2021-0108

**Average Yields on and BBB-rated Utility Bonds  
(2015- 2021)**



**Ameren Missouri**  
**Case No. GR-2021-0241**

**Historical Consolidated Capital Structures for  
Ameren Corporation**

(Dollars in Millions)

<u>Capital Components</u>	<u>September 30, 2019</u>	<u>December 31, 2019</u>	<u>March 31, 2020</u>	<u>June 30, 2020</u>
Common Equity	\$8,062.0	\$8,059.0	\$8,085.2	\$8,226.9
Preferred Stock	\$0.0	\$0.0	\$142.5	\$142.5
Long-Term Debt	\$8,651.0	\$8,915.0	\$9,472.0	\$10,265.7
	<u>\$16,713.0</u>	<u>\$16,974.0</u>	<u>\$17,699.6</u>	<u>\$18,635.1</u>

<u>Capital Components</u>	<u>September 30, 2020</u>	<u>December 31, 2020</u>	<u>March 31, 2021</u>	<u>June 30, 2021</u>
Common Equity	\$8,489.6	\$8,937.7	\$9,148.0	\$9,353.0
Preferred Stock	\$142.5	\$142.5	\$129.6	\$0.0
Long-Term Debt	\$10,266.7	\$10,830.6	\$11,278.7	\$12,492.0
	<u>\$18,898.8</u>	<u>\$19,910.7</u>	<u>\$20,556.3</u>	<u>\$21,845.0</u>

**Historical Consolidated Capital Structures for  
Ameren Missouri**

(Dollars in Millions)

<u>Capital Components</u>	<u>September 30, 2019</u>	<u>December 31, 2019</u>	<u>March 31, 2020</u>	<u>June 30, 2020</u>
Common Equity	\$4,345.0	\$4,269.0	\$4,258.6	\$4,410.7
Preferred Stock	\$80.0	\$80.0	\$80.8	\$80.8
Long-Term Debt	\$3,779.0	\$4,098.0	\$4,249.8	\$4,250.9
Total	<u>\$8,204.0</u>	<u>\$8,447.0</u>	<u>\$8,589.1</u>	<u>\$8,742.4</u>

<u>Capital Components</u>	<u>September 30, 2020</u>	<u>December 31, 2020</u>	<u>March 31, 2021</u>	<u>June 30, 2021</u>
Common Equity	\$4,708.2	\$5,129.7	\$5,289.39	\$5,551.0
Preferred Stock	\$80.8	\$80.8	\$80.76	\$80.0
Long-Term Debt	\$4,251.9	\$4,795.5	\$4,796.66	\$5,618.0
Total	<u>\$9,040.8</u>	<u>\$10,005.9</u>	<u>\$10,166.8</u>	<u>\$11,249.0</u>

Sources:

Form 10-Q, 10-K.

**Ameren Missouri**  
**Case No. GR-2021-0241**

**Historical Consolidated Capital Structures for  
Ameren Corporation**  
*(Percentage)*

<u>Capital Components</u>	<u>September 30, 2019</u>	<u>December 31, 2019</u>	<u>March 31, 2020</u>	<u>June 30, 2020</u>
Common Equity	48.24%	47.48%	45.68%	44.15%
Preferred Stock	0.00%	0.00%	0.80%	0.76%
Long-Term Debt	51.76%	52.52%	53.52%	55.09%
	<u>100.00%</u>	<u>100.00%</u>	<u>100.00%</u>	<u>100.00%</u>

<u>Capital Components</u>	<u>September 30, 2020</u>	<u>December 31, 2020</u>	<u>March 31, 2021</u>	<u>June 30, 2021</u>
Common Equity	44.92%	44.89%	44.50%	42.82%
Preferred Stock	0.75%	0.72%	0.63%	0.00%
Long-Term Debt	54.32%	54.40%	54.87%	57.18%
	<u>100.00%</u>	<u>100.00%</u>	<u>100.00%</u>	<u>100.00%</u>

**Historical Consolidated Capital Structures for  
Ameren Missouri**  
*(Percentage)*

<u>Capital Components</u>	<u>September 30, 2019</u>	<u>December 31, 2019</u>	<u>March 31, 2020</u>	<u>June 30, 2020</u>
Common Equity	52.96%	50.54%	49.58%	50.45%
Preferred Stock	0.98%	0.95%	0.94%	0.92%
Long-Term Debt	46.06%	48.51%	49.48%	48.62%
Total	<u>100.00%</u>	<u>100.00%</u>	<u>100.00%</u>	<u>100.00%</u>

<u>Capital Components</u>	<u>September 30, 2020</u>	<u>December 31, 2020</u>	<u>March 31, 2021</u>	<u>June 30, 2021</u>
Common Equity	52.08%	51.27%	52.03%	49.35%
Preferred Stock	0.89%	0.81%	0.79%	0.71%
Long-Term Debt	47.03%	47.93%	47.18%	49.94%
Total	<u>100.00%</u>	<u>100.00%</u>	<u>100.00%</u>	<u>100.00%</u>

Sources:

Form 10-Q, 10-K

Staff Data Request No. 0112.

**Ameren Missouri**  
**Case No. GR-2021-0241**

**Capital Structure as of June 30, 2021**

**Ameren Corporation**

*(Dollars in Millions)*

<u>Capital Component</u>	Amount	Percentage of Capital
Common Stock Equity	\$9,148	44.50%
Preferred Stock	\$130	0.63%
Long-Term Debt	\$11,279	54.87%
<b>Total Capitalization</b>	<b><u><u>\$20,556</u></u></b>	<b><u><u>100.00%</u></u></b>

Sources:  
Form 10-Q

**Adjusted Capital Structure as of June 30, 2021**

**Ameren Missouri**

*(Dollars in Millions)*

<u>Capital Component</u>	Amount	Percentage of Capital
Common Stock Equity	\$5,470	50.32%
Preferred Stock	\$82	0.75%
Long-Term Debt	\$5,318	48.92%
<b>Total Capitalization</b>	<b><u><u>\$10,870</u></u></b>	<b><u><u>100.00%</u></u></b>

Source:  
Staff Data Request No. 0651 of Case No. ER-2021-0240

**Ameren Missouri**  
**Case No. GR-2021-0241**

**Embedded Cost of Long-Term Debt as of June 30, 2020**  
**for Ameren Corporation & Ameren Missouri**

**Ameren Corporation**

(In millions)

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Total Annual Cost:	\$457.8
Total Carrying Value:	\$12,177.3
Embedded Cost = Total Annual Cost/Total Carrying Value	3.76%

Note:

Source:

Staff Data Request No. 0114.

**Ameren Missouri**

(In millions)

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Total Annual Cost:	\$208.0
Total Carrying Value:	\$5,318.2
Embedded Cost = Total Annual Cost/Total Carrying Value	3.91%

Note:

Source:

Staff Data Request No. 0114.



**Ameren Missouri**  
**Case No. GR-2021-0241**

**Embedded Cost of Preferred Stock as of June 30, 2020**  
**for Ameren Corporation & Ameren Missouri**

**Ameren Corporation**

(In millions)

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Total Annual Cost:	\$5.3
Total Carrying Value:	\$130.2
Embedded Cost = Total Annual Cost/Total Carrying Value	4.09%

Note:

Source:

Staff Data Request No. 0114.

**Ameren Missouri**

(In millions)

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Total Annual Cost:	\$3.4
Total Carrying Value:	\$81.8
Embedded Cost = Total Annual Cost/Total Carrying Value	4.18%

Note:

Source:

Staff Data Request No. 0114.

**AMEREN MISSOURI**  
**CASE NO. GR-2021-0241**  
**PROXY GROUP SCREENING DATA AND RESULTS**

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]		
Gas Utility Companies	Ticker	Stock Publicly Traded	Information Provided by Value Line	Information Provided by Reuters	5-Year Data Available	Dividends	At Least Investment Grade Credit Rating	S&P Global Rating	Moody's	At least 65% of Regulated Income from Gas Utility Operations	At least 65% of Assets are Gas Distribution Operations	No Reduced Dividend Since 2015	Positive Growth Rates from at Least Two Sources	Covered by More Than 2 Analyst	Comparable Company Met All Criteria
Atmos Energy Corporation	ATO	Yes	Yes	Yes	Yes	Yes	Yes	A-	A1	Yes	Yes	Yes	Yes	Yes	Yes
Chesapeake Util.	CPK	Yes	Yes	Yes	Yes	Yes	N/A	N/A	N/A	No	No	Yes	Yes	Yes	No
New Jersey Resources Corporation	NJR	Yes	Yes	Yes	Yes	Yes	Yes	N/A	A1	Yes	Yes	Yes	Yes	Yes	Yes
NiSource Inc.	NI	Yes	Yes	Yes	Yes	Yes	Yes	BBB+	Baa2	No	No	No	Yes	Yes	No
Northwest Natural Holding Company	NWN	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Baa1	Yes	Yes	Yes	Yes	Yes	Yes
ONE Gas, Inc.	OGS	Yes	Yes	Yes	Yes	Yes	Yes	BBB+	A3	Yes	Yes	Yes	Yes	Yes	Yes
South Jersey Industries, Inc.	SJI	Yes	Yes	Yes	Yes	Yes	Yes	BBB	N/A	Yes	Yes	Yes	Yes	Yes	Yes
Southwest Gas Holdings, Inc.	SWX	Yes	Yes	Yes	Yes	Yes	Yes	BBB+	Baa2	Yes	Yes	Yes	Yes	Yes	Yes
Spire Inc.	SR	Yes	Yes	Yes	Yes	Yes	Yes	A-	Baa2	Yes	Yes	Yes	Yes	Yes	Yes

**Note:**

- [1] Source: The Value Line Investment Survey: Ratings & Reports
- [2] Source: The Value Line Investment Survey: Ratings & Reports
- [3] Source: Reuters, <https://www.reuters.com/>
- [4] Source: The Value Line Investment Survey: Ratings & Reports
- [5] Source: The Value Line Investment Survey: Ratings & Reports
- [6] Source: S&P Global Market Intelligence
- [7] Source: S&P Global Market Intelligence
- [8] Source: S&P Global Market Intelligence
- [9] Source: SEC Form 10-K Filings
- [10] Source: SEC Form 10-K Filings
- [11] Source: The Value Line Investment Survey: Ratings & Reports
- [12] Source: S&P Global Market Intelligence, Value Line Investment Survey, Yahoo! Finance, and Zacks
- [13] Source: S&P Global Market Intelligence, Value Line Investment Survey, Yahoo! Finance, and Zacks

**AMEREN MISSOURI  
CASE NO. GR-2021-0241**

**PROXY GROUP LIST**

Gas Utility Companies	Ticker
1 Atmos Energy Corporation	ATO
2 New Jersey Resources Corporation	NJR
3 Northwest Natural Holding Company	NWN
4 ONE Gas, Inc.	OGS
5 South Jersey Industries, Inc.	SJI
6 Southwest Gas Holdings, Inc.	SWX
7 Spire Inc.	SR

**AMEREN MISSOURI  
CASE NO. GR-2021-0241**

**Growth Rate Estimates  
Based on Dividend per Share (DPS) and Earning per Share (EPS)  
for the Comparable Natural Gas Utility Companies**

2020	[1]	[2]			[3]			[4]			[5]			[6]			[7]			[8]			[9]			[10]			[11]			[12]			[13]		
		Past 10-Years			Past 5-Year			Projected			Average			Projective																							
Water Utility Companies	Ticker	EPS	DPS	Average	EPS	DPS	Average	EPS	DPS	W.Average	EPS	DPS	Average	Real GDP																							
1 Atmos Energy Corporation	ATO	8.00%	5.00%	6.50%	9.00%	7.50%	8.25%	7.00%	7.50%	7.36%	8.00%	6.67%	7.33%	3.70%																							
2 New Jersey Resources Corporation	NJR	6.00%	7.00%	6.50%	5.50%	6.50%	6.00%	2.00%	5.50%	4.49%	4.50%	6.33%	5.66%	3.70%																							
3 Northwest Natural Holding Company	NWN	-1.50%	1.50%	0.00%	1.50%	0.50%	1.00%	5.50%	0.50%	1.95%	1.83%	0.83%	1.33%	3.70%																							
4 ONE Gas, Inc.	OGS				10.00%	14.50%	12.25%	6.50%	7.00%	6.86%	8.25%	10.75%	9.50%	3.70%																							
5 South Jersey Industries, Inc.	SJI	1.50%	6.50%	4.00%	-1.50%	4.00%	1.25%	11.50%	4.50%	6.53%	3.83%	5.00%	3.93%	3.70%																							
6 Southwest Gas Holdings, Inc.	SWX	7.50%	6.50%	7.00%	5.50%	8.00%	6.75%	9.00%	4.50%	5.81%	7.33%	6.33%	6.83%	3.70%																							
7 Spire Inc.	SR	1.50%	4.50%	3.00%	4.50%	6.00%	5.25%	10.00%	4.50%	6.10%	5.33%	5.00%	5.17%	3.70%																							
Average		3.83%	5.17%	4.50%	4.93%	6.71%	5.82%	7.36%	4.86%	5.58%	5.58%	5.85%	5.68%	3.70%																							
NISource Inc.	NI	-1.00%	-2.00%	-1.50%	-8.00%	-5.00%	-6.50%	10.00%	4.50%	7.25%	0.33%	-0.83%	-0.25%	3.70%																							
Chesapeake Util.	CPK	9.00%	5.50%	7.25%	8.00%	6.50%	7.25%	8.50%	8.00%	8.25%	8.50%	6.67%	7.58%	3.70%																							

2017	Water Utility Companies	Ticker	Past 10-Years			Past 5-Year			Projected			Average			Projective		
			EPS	DPS	Average	EPS	DPS	Average	EPS	DPS	W.Average	EPS	DPS	Average	Real GDP		
1	Atmos Energy Corporation	ATO	5.50%	2.00%	3.75%	7.00%	2.50%	4.75%	6.50%	6.50%	6.50%	6.33%	3.67%	5.00%	4.00%		
2	New Jersey Resources Corporation	NJR	7.50%	7.00%	7.25%	6.50%	7.00%	6.75%	3.00%	3.50%	3.36%	5.67%	5.83%	5.75%	4.00%		
3	Northwest Natural Holding Company	NWN	1.00%	3.50%	2.25%	-5.00%	3.00%	-1.00%	7.00%	2.00%	3.45%	1.00%	2.83%	1.92%	4.00%		
4	ONE Gas, Inc.	OGS							9.50%	17.00%	14.83%	9.50%	17.00%	13.25%	4.00%		
5	South Jersey Industries, Inc.	SJI	7.00%	9.00%	8.00%	4.00%	9.50%	6.75%	3.00%	6.50%	5.49%	4.67%	8.33%	6.50%	4.00%		
6	Southwest Gas Holdings, Inc.	SWX	8.50%	6.00%	7.25%	10.00%	9.00%	9.50%	7.00%	9.50%	8.78%	8.50%	8.17%	8.33%	4.00%		
7	Spire Inc.	SR	3.50%	3.00%	3.25%	1.50%	3.50%	2.50%	9.00%	3.50%	5.10%	4.67%	3.33%	4.00%	4.00%		
	Average		5.50%	5.08%	5.29%	4.00%	5.75%	4.88%	6.43%	6.93%	6.68%	5.76%	7.02%	6.39%	4.00%		

**Note:**

- [1] Source: The Value Line Investment Survey: Ratings & Reports
- [2] Source: The Value Line Investment Survey: Ratings & Reports
- [3]  $=([1]+[2])/2$
- [4] Source: The Value Line Investment Survey: Ratings & Reports
- [5] Source: The Value Line Investment Survey: Ratings & Reports
- [6]  $=([4]+[5])/2$
- [7] Source: The Value Line Investment Survey: Ratings & Reports
- [8] Source: The Value Line Investment Survey: Ratings & Reports
- [9]  $=W*[7]+(1-W)*[8]$  W= 0.3
- [10]  $=([1]+[4]+[7])/3$
- [11]  $=([2]+[5]+[8])/3$
- [12]  $=([10]+[11])/2$
- [13] Source: Congress Budget Office (CBO), Budget Economic Outlook

**AMEREN MISSOURI**  
**CASE NO. GR-2021-0241**  
**Average High / Low Stock Price for April 2021 through June 2020**  
**for the Comparable Natural Gas Utility Companies**

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	
		<u>April 2021</u>		<u>May 2021</u>		<u>June 2021</u>		Average	
		High	Low	High	Low	High	Low	High/Low	
<u>Company Name</u>	<u>Ticker</u>	<u>Stock Price</u>	<u>Stock Price</u>	<u>Stock Price</u>	<u>Stock Price</u>	<u>Stock Price</u>	<u>Stock Price</u>	<u>Stock Price</u>	
								<u>(4/01/21 - 6/30/21)</u>	
1	Atmos Energy Corporation	ATO	104.99	97.08	104.79	96.84	101.84	95.67	100.20
2	New Jersey Resources Corporation	NJR	43.41	39.46	43.94	41.59	44.41	39.21	42.00
3	Northwest Natural Holding Company	NWN	56.75	52.61	56.11	52.50	55.70	51.37	54.17
4	ONE Gas, Inc.	OGS	81.90	75.69	81.55	72.50	78.96	73.20	77.30
5	South Jersey Industries, Inc.	SJI	25.47	22.45	26.87	24.60	27.99	25.62	25.50
6	Southwest Gas Holdings, Inc.	SWX	73.54	67.61	72.57	65.29	68.20	62.54	68.29
7	Spire Inc.	SR	77.95	72.70	77.87	71.48	76.85	69.77	74.44

		<u>April 2017</u>		<u>May 2017</u>		<u>June 2017</u>		Average	
		High	Low	High	Low	High	Low	High/Low	
<u>Company Name</u>	<u>Ticker</u>	<u>Stock Price</u>	<u>Stock Price</u>	<u>Stock Price</u>	<u>Stock Price</u>	<u>Stock Price</u>	<u>Stock Price</u>	<u>Stock Price</u>	
								<u>(4/01/17 - 06/30/17)</u>	
1	Atmos Energy Corporation	ATO	82.07	78.42	83.62	78.55	85.61	82.14	81.74
2	New Jersey Resources Corporation	NJR	42.65	38.95	42.10	39.15	43.50	39.50	40.98
3	Northwest Natural Holding Company	NWN	61.25	58.00	61.60	57.65	63.40	59.35	60.21
4	ONE Gas, Inc.	OGS	70.64	67.27	70.92	67.31	72.97	68.85	69.66
5	South Jersey Industries, Inc.	SJI	38.40	35.17	37.70	34.46	37.55	33.93	36.20
6	Southwest Gas Holdings, Inc.	SWX	85.56	82.22	85.24	76.58	81.97	72.32	80.65
7	Spire Inc.	SR	69.95	66.75	71.05	63.84	72.83	68.85	68.88

Note:

[1] Source: Wall Street Journal, <https://www.wsj.com/market-data>

[2] Source: Wall Street Journal, <https://www.wsj.com/market-data>

[3] Source: Wall Street Journal, <https://www.wsj.com/market-data>

[4] Source: Wall Street Journal, <https://www.wsj.com/market-data>

[5] Source: Wall Street Journal, <https://www.wsj.com/market-data>

[6] Source: Wall Street Journal, <https://www.wsj.com/market-data>

[7] = (([1]+[2]+[3]+[4]+[5]+[6]) / 6

**AMEREN MISSOURI**  
**CASE NO. GR-2021-0241**  
**Discounted Cash Flow (DCF) Costs of Common Equity (COE) Estimates**  
**Based on Dividend per Share, Earning per Share, Stock Price, and Growth Rate**  
**for the Comparable Natural Gas Utility Companies**

<u>2021 DCF Estimate</u>		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	
Water Utility Companies	Ticker	Dividend per Share	Stock Price	Dividend Yield	Expected Dividend Yield	Projected Weighted Growth	Projected GDP Growth	Growth Rate	COE	
1	Atmos Energy Corporation	ATO	2.30	100.20	2.30%	2.37%	7.36%	3.70%	6.14%	8.50%
2	New Jersey Resources Corporation	NJR	1.27	42.00	3.02%	3.09%	4.49%	3.70%	4.22%	7.31%
3	Northwest Natural Holding Company	NWN	1.91	54.17	3.53%	3.57%	1.95%	3.70%	2.53%	6.10%
4	ONE Gas, Inc.	OGS	2.16	77.30	2.79%	2.88%	6.86%	3.70%	5.80%	8.68%
5	South Jersey Industries, Inc.	SJI	1.20	25.50	4.71%	4.84%	6.53%	3.70%	5.59%	10.42%
6	Southwest Gas Holdings, Inc.	SWX	2.26	68.29	3.31%	3.39%	5.81%	3.70%	5.10%	8.50%
7	Spire Inc.	SR	2.49	74.44	3.35%	3.43%	6.10%	3.70%	5.30%	8.73%
Average								3.70%	4.95%	8.32%
								DCF Lower Bound		6.10%
								DCF Upper Bound		8.73%

<u>2017 DCF Estimate</u>		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	
Water Utility Companies	Ticker	Dividend per Share	Stock Price	Dividend Yield	Expected Dividend Yield	Projected Weighted Growth	Projected GDP Growth	Growth Rate	COE	
1	Atmos Energy Corporation	ATO	1.80	81.74	2.20%	2.26%	6.50%	4.00%	5.67%	7.93%
2	New Jersey Resources Corporation	NJR	1.04	40.98	2.54%	2.58%	3.36%	4.00%	3.57%	6.15%
3	Northwest Natural Holding Company	NWN	1.88	60.21	3.12%	3.18%	3.45%	4.00%	3.63%	6.81%
4	ONE Gas, Inc.	OGS	1.68	69.66	2.41%	2.55%	14.83%	4.00%	11.22%	13.76%
5	South Jersey Industries, Inc.	SJI	1.10	36.20	3.04%	3.11%	5.49%	4.00%	4.99%	8.10%
6	Southwest Gas Holdings, Inc.	SWX	1.98	80.65	2.46%	2.54%	8.78%	4.00%	7.18%	9.73%
7	Spire Inc.	SR	2.10	68.88	3.05%	3.12%	5.10%	4.00%	4.73%	7.85%
Average								4.00%	5.86%	8.62%
								DCF Lower Bound		6.15%
								DCF Upper Bound		9.73%

Comparison DCF Estimates

2017 DCF COE estimate	8.62%
2021 DCF COE estimate	8.32% <sup>a</sup>
Difference of Averages between 2017 and 2021	<u>-0.30%</u>

Note:

- [1] Source: The Value Line Investment Survey: Ratings & Reports.
- [2] Source: The Wall Street Journal; Average Monthly Highest and Lowest.
- [3] = [1] / [2]
- [4] = [3] x (1 + .5 x [7])
- [5] Source: [12] of Growth Rate SJW-11
- [6] Source: Congress Budget Office (CBO), Budget Economic Outlook
- [7] = (2 x [5] + [6]) / 3
- [8] = [4] + [7]
- a The Upper Bond of reasonable COE range



**AMEREN MISSOURI  
CASE NO. GR-2021-0241**

**AUTHORIZED RETURN ON EQUITY**

2017 COE Estimate	DCF	8.62% <sup>A</sup>
2021 COE Estimate	DCF	8.32% <sup>B</sup>
ROE Adjustment		-0.30% <sup>C</sup>
Authorized ROE	2017	9.80% <sup>D</sup>
Recommended ROE	2021	<u>9.50%</u> <sup>E</sup>

Note:

A Schedule SJW-13

B Schedule SJW-13

C = [A] - [B]

D Amended Report and Order, Case Nos. GR-2017-0215 and GR-2017-0216.

E = [C] + [D]



**AMEREN MISSOURI  
CASE NO. GR-2021-0241**

**ALLOWED RATE OF RETURN**

Capital Component	Percentage of Capital	Embedded Cost	Lower <b>9.25%</b>	Allowed Rate of Return Common Equity Return of:	
				ROE <b>9.50%</b> <sup>3</sup>	Upper <b>9.75%</b>
Common Stock Equity	50.32%	-	4.65%	4.78%	4.91%
Preferred Stock	0.75%	4.18% <sup>1</sup>	0.03%	0.03%	0.03%
Long-Term Debt	48.93%	3.91% <sup>2</sup>	1.91%	1.91%	1.91%
Total	<b><u>100.00%</u></b>		<b><u>6.60%</u></b>	<b><u>6.72%</u></b>	<b><u>6.85%</u></b>

Note:

- 1 Schedule SJW-8
- 2 Schedule SJW-7
- 3 Schedule SJW-15

**AMEREN MISSOURI  
CASE NO. GR-2021-0241**

**Authorized ROE of the U.S Utility by Sector  
2010-2021**

<u>Year</u>	<u>Natural Gas</u>						<u>Electric</u>					
	<u>Fully Litigated</u>		<u>Settled</u>		<u>Natural Gas Total</u>		<u>Fully Litigated</u>		<u>Settled</u>		<u>Electric Total</u>	
	<u>ROE (%)</u>	<u>Case (No.)</u>	<u>ROE (%)</u>	<u>Case (No.)</u>	<u>ROE (%)</u>	<u>Case (No.)</u>	<u>ROE (%)</u>	<u>Case (No.)</u>	<u>ROE (%)</u>	<u>Case (No.)</u>	<u>ROE (%)</u>	<u>Case (No.)</u>
2010	10.08	27	10.30	12	10.15	39	10.35	27	10.39	34	10.37	61
2011	9.76	8	10.08	8	9.92	16	10.39	26	10.12	16	10.29	42
2012	9.92	21	9.99	14	9.94	35	10.28	29	10.06	29	10.17	58
2013	9.59	12	9.80	9	9.68	21	9.85	17	10.12	32	10.03	49
2014	9.98	15	9.51	11	9.78	26	10.05	21	9.73	17	9.91	38
2015	9.58	5	9.60	11	9.60	16	9.66	16	10.04	15	9.84	31
2016	9.61	10	9.50	16	9.54	26	9.74	25	9.80	17	9.77	42
2017	9.82	7	9.68	17	9.72	24	9.73	24	9.75	29	9.74	53
2018	9.59	17	9.59	23	9.59	40	9.63	22	9.57	26	9.60	48
2019	9.74	12	9.70	20	9.71	32	9.58	27	9.76	20	9.66	47
2020	9.44	12	9.47	22	9.46	34	9.43	32	9.46	23	9.44	55
2021	9.60	7	9.48	13	9.52	20	9.43	18	9.48	11	9.45	29
Q1 2021	9.77	2	9.69	8	9.71	10	9.48	8	9.40	2	9.46	10
Q2 2021	9.54	4	9.37	2	9.48	6	9.31	5	9.50	5	9.40	10

Note:

Source: S&P Global Market Intelligence, Retrieved in July 19, 2021