

**BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Application of Ohio)
Edison Company, the Cleveland Electric)
Illuminating Company, and the Toledo) Case No. 23-301-EL-SSO
Edison Company for Authority to)
Establish a Standard Service Offer)
Pursuant to R.C. 4928.143 in the Form of)
an Electric Security Plan.)

**DIRECT TESTIMONY
OF
JOSEPH P. BUCKLEY**

**On Behalf of the
Office of the Ohio Consumers' Counsel**
*65 East State Street, Suite 700
Columbus, Ohio 43215*

October 23, 2023

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LIST OF ATTACHMENTS

Attachment JPB-1	Price Regulation & Accounting III: Cost of Capital Overview (NARUC Energy Regulation Partnership Program)
Attachment JPB-2	S&P Global Market Intelligence and Rate Case Data (October 4, 2023)

1 **I. INTRODUCTION**

2

3 ***Q1. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND POSITION.***

4 ***A1.*** My name is Joseph P. Buckley. My business address is 65 East State Street, Suite
5 700, Columbus, Ohio 43215. I am an Analyst in the Analytical Services
6 Department for the Office of the Ohio Consumers' Counsel ("OCC").

7

8 ***Q2. WHAT ARE YOUR RESPONSIBILITIES AS AN ANALYST FOR OCC IN***
9 ***THIS PROCEEDING?***

10 ***A2.*** In this proceeding I am responsible for investigating the proposed Electric
11 Security Plan ("ESP") for FirstEnergy electric distribution utilities, The Ohio
12 Edison Company, The Cleveland Electric Illuminating Company, and The Toledo
13 Edison Company (collectively "FirstEnergy Utilities"). My testimony focuses on
14 rate of return.

15

16 ***Q3. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND.***

17 ***A3.*** I earned a Bachelor of Science degree in Business Administration from The Ohio
18 State University and a Master of Business Administration degree from the
19 University of Dayton.

20

21 ***Q4. PLEASE SUMMARIZE YOUR PROFESSIONAL EXPERIENCE AS IT***
22 ***RELATES TO UTILITY REGULATION.***

23

24 ***A4.*** From July 1987 to July 2022, I was employed by the Public Utilities Commission
25 of Ohio ("PUCO"). During that time, I held several positions (*e.g.*, Rate Analyst,

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1 Utility Specialist I, and Utility Specialist 3) in various divisions and departments
2 that focused on utility financial and accounting issues, including rate of return. In
3 addition, I served on multiple federal/state joint audits and was Chairman and
4 Vice Chairman of the Mid-Continent Independent System Operator (MISO),
5 finance committee.

6
7 In 2000, I earned the Certified in Financial Management (CFM) designation,
8 awarded by the Institute of Management Accountants and in 2011, I was awarded
9 the professional designation Certified Rate of Return Analyst (CRRA) by the
10 Society of Utility and Regulatory Financial Analysts. This designation is granted
11 based upon experience and successful completion of a written examination.

12

13 **Q5. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY BEFORE THE**
14 **PUCO?**

15
16 **A5.** Yes. When I worked at the PUCO, I testified on numerous occasions to advocate
17 to the PUCO the positions of the PUCO Staff, including the ranges of a
18 reasonable rate of return in base distribution rate and other rate proceedings. I
19 also was responsible for other topics such as management and operations review ,
20 affiliate transactions, and significantly excessive earnings test (SEET), among
21 others.

22

23

1 **II. PURPOSE OF TESTIMONY**

2

3 **Q6. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**
4 **PROCEEDING?**

5

6 **A6.** I will explain and support why the rate of return proposed by the FirstEnergy
7 Utilities for the proposed ESP is not appropriate because the proposed rate of
8 return is not reasonable and the resulting rates charged to consumers under the
9 ESP will be too high. I will provide an alternative rate of return that is consistent
10 with established regulatory principles and protect consumers from paying
11 unreasonable rates to FirstEnergy Utilities.

12

13 **Q7. PLEASE SUMMARIZE YOUR FINDINGS AND RECOMMENDATIONS.**

14 **A7.** For consumer protection, I recommend that the PUCO reject the rate of return
15 proposed by the FirstEnergy Utilities as unreasonable and harmful to the
16 consumers. Instead, the PUCO should accept OCC's recommended rate of return
17 in this proceeding, for the applicable riders in which a rate of return is requested
18 in this case. This recommended rate of return will be applicable until it is
19 adjusted (as needed) from the conclusion of a base distribution rate case the
20 FirstEnergy Utilities are required to file by May 2024.

21

22 **Q8. DO YOU BELIEVE THE FIRST ENERGY UTILITIES' RATE OF RETURN**
23 **SHOULD BE REVIEWED AND UPDATED BECAUSE IT IS OVER 14**
24 **YEARS OLD?**

25

26 **A8.** Yes. There are many ways to estimate or calculate a rate of return. If, after an
27 extensive review, the rate of return set from the previous rate case was still

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1 reasonable based on financial markets and economic conditions, I would see no
2 compelling reason to modify it. But this is not the case for the FirstEnergy
3 Utilities in this proceeding.

4

5 ***Q9. WHY DO YOU BELIEVE THE RATE OF RETURN OF THE***
6 ***FIRSTENERGY UTILITIES SHOULD BE REVIEWED AND UPDATED?***

7

8 ***A9.*** The FirstEnergy Utilities are currently authorized a rate of return of 8.48 percent
9 with a cost of debt of 6.54 percent and a return on equity (ROE) of 10.5 percent.¹

10 These returns (cost of debt and ROE) and the resulting authorized rate of return
11 are no longer reflective of the returns being granted to regulated electric utilities
12 nationally in recent years.² For example, the average ROE granted for
13 distribution-only rate cases for electric utilities for the first six months of 2023
14 (January 1, 2023 through June 30, 2023) was 9.22 percent. And the rate of return
15 for all electric rate cases was 6.92 percent during the same period.³

16

17 The situation in Ohio is similar. The cost of debt and ROE authorized for electric
18 utilities (Duke Energy of Ohio, Ohio Power Company, and The Dayton Power
19 and Light Company) in recent years in both the rate case and the ESP proceedings
20 are significantly lower than those proposed by the FirstEnergy Utilities in this
21 proceeding.

¹ Opinion and Order, Case No. 07-551-EL-SSO (January 21, 2009), pp. 20-23.

² See S&P Global Intelligence and Rate Case Data (JPB-1).

³ *Id.*

1 **III. REVIEW AND UPDATE OF RATE OF RETURN PROPOSED BY THE**
2 **FIRSTENERGY UTILITIES**

3

4 **Q10. WHAT IS THE APPROPRIATE METHOD TO CALCULATE A RATE OF**
5 **RETURN FOR A REGULATED UTILITY?**

6

7 **A10.** The judicial guidance for calculating an appropriate rate of return comes primarily
8 from the decisions by the United States Supreme Court in the *Bluefield Water*
9 *Works v. Public Service Comm'n*, 262 U.S. 679 (1923) (“Bluefield”) and *FPC v.*
10 *Hope Nat. Gas Co.*, 320 U.S. 591 (1944) (“Hope”). The *Bluefield* decision can be
11 summarized as follows: “The return should be reasonably sufficient to assure
12 confidence in the financial soundness of the utility and should be adequate, under
13 efficient and economical management to maintain and support its credit to enable
14 the utility to raise necessary capital.”⁴

15

16 The *Hope* decision can be summarized as follows: “**The return to the equity**
17 **owner should be commensurate with returns on investments in other**
18 **enterprises having corresponding risks.** That return, moreover, should be
19 sufficient to assure confidence in the financial integrity of the enterprise, to
20 maintain its credit and attract capital. In addition, it is the result that is important
21 and not the methods used to arrive at the rates.”⁵ (Emphasis added.)

⁴ Price Regulation & Accounting III: Cost of Capital Overview, NARUC Energy Regulatory Partnership Program.

⁵ *Id.*

1 **Q11. WHAT IS A UTILITY'S COST OF COMMON EQUITY OR ROE INTENDED**
2 **TO REFLECT?**

3
4 **A11.** A ROE is the allowed rate of profit for the common equity invested by
5 shareholders of a regulated company (or utility). In a competitive market, a
6 company's profit level is determined by a variety of market factors. These factors
7 include the state of the economy, the degree of competition a company faces, the
8 ease of entry into its markets, the existence of substitute or complementary
9 products/services, the company's cost structure, the impact of technological
10 changes, and the supply and demand for its products and/or services.

11
12 For a regulated monopoly, such as a public utility, the regulator determines the
13 level of profit available (authorized) to the public utility. The United States
14 Supreme Court established the guiding principles for determining an appropriate
15 level of profitability for regulated public utilities in the two cases discussed above
16 – *Hope* and *Bluefield*. In those cases, the Court recognized that the fair rate of
17 return on equity (thus fair rate of return) should be:

18 (1) comparable to returns investors expect to earn on other investments of
19 similar risk;

20
21 (2) sufficient to assure confidence in the company's financial integrity; and

22
23 (3) adequate to maintain and support the company's credit and to attract
24 capital.

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1 Thus, the appropriate ROE for a regulated utility requires determining the market-
2 based cost of equity. The market-based cost of equity for a regulated firm
3 represents the return investors could expect from other investments with
4 comparable business and financial risks.

5

6 The purpose of all the economic models and formulas used in calculating cost of
7 capital or cost of equity for a regulated firm is to estimate, using market data for
8 firms with similar risk, the rate of return on equity investors require for that risk
9 class of firms.⁶

10

11 ***Q12. WHAT IS THE CURRENT AVERAGE OF RATES OF RETURN***
12 ***CURRENTLY BEING GRANTED FOR ELECTRIC UTILITIES***
13 ***NATIONWIDE?***

14

15 ***A12.*** The average rate of return that was granted from January 1, 2023 through June 30,
16 2023 for electric utilities nationwide was 6.82 percent based on the outcome of 19
17 electric cases.⁷

18

19

⁶ *Id.*

⁷ *See* S&P Global Intelligence and Rate Case Data (JPB-1).

1 **Q13. WHAT ROE AND COST OF DEBT DO YOU THINK THE FIRSTENERGY**
2 **UTILITIES SHOULD USE UNTIL THEY ARE ESTABLISHED IN A RATE**
3 **CASE TO BE FILED IN 2024?**

4
5 **A13.** I believe the average ROE granted distribution only electric utilities nationwide
6 over the last six months (9.22 percent)⁸ would be an adequate proxy for the ROE
7 authorized for the FirstEnergy Utilities. Based on my review, I did not find the
8 FirstEnergy Utilities to have much higher or lower risk profiles as compared to
9 the average overall risk profile of distribution-only electric utilities.

10

11 As for the cost of debt, in the absence of a detailed filing of current outstanding
12 long-term debt and associated information, I believe the current cost of debt as
13 calculated using the total interest expense divided by the total debt⁹ as shown
14 below (and reported in financial statements), would be appropriate.

15

	Interest Expense	Long Term Debt	Cost of Debt
CEI	75,000	1,403,000	5.35%
OE	67,000	1,263,000	5.30%
TE	25,000	450,000	5.56%
Total	167,000	3,116,000	5.36%

16

17 **Q14. WHAT CAPITAL STRUCTURE WOULD YOU RECOMMEND FOR THE**
18 **NEW RATE OF RETURN?**

19

20 **A14.** I would recommend using the actual capital structure of the combined FirstEnergy

21 Utilities as shown below:

⁸ S&P Market Intelligence Table 5 Electric and gas utility decisions.

⁹ S&P Global Financial Data

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1

	Total Equity	Long Term Debt	Total Capital
CEI	1,655,000	1,403,000	3,058,000
OE	1,242,000	1,263,000	2,505,000
TE	565,000	450,000	1,015,000
Total	<u>3,462,000</u>	<u>3,116,000</u>	<u>6,578,000</u>
Percentage	52.63%	47.37%	100%

2

3 **Q15. WHAT IS THE RESULTING RATE OF RETURN?**

4 **A15.** The appropriate rate of return is summarized below.

Rate of Return Summary				
The FirstEnergy Utilities				
Capital Structure as 2022 end of Fiscal Year (Per S&P)				
	\$ Amount	% of Total	% Cost	Weighted Cost %
Long Term Debt	\$3,116,000	47.37%	5.63%	2.66%
Preferred Stock	\$0	0.00%	0.00%	0.00%
Common Equity	\$3,462,000	52.63%	9.22 %	4.85%
Total Capital	\$6,314,400	100.00%		7.51.%

5 The PUCO should set a rate of return no higher than 7.51 percent in this
6 proceeding.

7

8 **Q16. DOES THE FIRSTENERGY UTILITIES' RISK PROFILE OR ANY OTHER**
9 **FACTORS WARRANT A HIGHER RATE OF RETURN COMPARED TO**
10 **NATIONAL AVERAGES?**

11

12 **A16.** No. As discussed earlier, it is my view that the FirstEnergy Utilities' financial and
13 business risk is comparable to that of an average distribution-only electric utility.

14

1 Currently the average bond rating for US electric companies by S&P is BBB+.¹⁰
2 The FirstEnergy Utilities' bond rating is BBB, one notch below, but still at
3 investment grade. On the other hand, the FirstEnergy Utilities were indicated and
4 fined for breaking the law and violations of financial and accounting rules. A
5 strong argument can be made that the FirstEnergy Utilities' authorized rate of
6 return should be lowered as a deterrent for similar criminal activities and
7 violations by the FirstEnergy Utilities and other Ohio electric distribution utilities.
8 For example, in PUCO Case No. 20-1629-EL-RDR, OCC has recommended that
9 the return on equity allowed for the Delivery Capital Recovery Rider ("Rider
10 DCR") should be lowered by 200 basis points, from 10.50% to 8.50% for the
11 improper payments and improper charges to consumers as identified by the third-
12 party auditor of the 2020 Rider DCR.¹¹

13

14 **IV. CONCLUSION**

15

16 ***Q17. WHAT RATE OF RETURN DO YOU RECOMMEND IN THIS***
17 ***PROCEEDING FOR THE APPLICABLE RIDERS IN WHICH A RATE OF***
18 ***RETURN IS REQUESTED?***

19

20 ***A17.*** I believe the rate of return should be no higher than 7.51 percent. The ROE (and
21 resulting rate of return) allowed for certain riders such as Rider DCR and the
22 Advanced Metering Infrastructure/Modern Grid Rider ("Rider AMI") should be

¹⁰ S&P Global Rating/Industry Top Trends (January 23, 2023).

¹¹ PUCO Case No. 20-1629-EL-RDR, Comments of OCC at 16 (October 4, 2021).

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1 set even lower than that to reflect the abuse or ineffectiveness of the riders by the
2 FirstEnergy Utilities.

3

4 ***Q18. DOES THIS CONCLUDE YOUR TESTIMONY?***

5 ***A18.*** Yes. However, I reserve the right to supplement my testimony if additional
6 testimony is filed, or if new information or data in connection with this
7 proceeding becomes available.

CERTIFICATE OF SERVICE

I hereby certify that a true copy of the foregoing Direct Testimony of Joseph P. Buckley on Behalf of the Office of the Ohio Consumers' Counsel was served via electronic transmission to the persons listed below on this 23rd day of October 2023.

/s/ John Finnigan
John Finnigan
Assistant Consumers' Counsel

The PUCO's e-filing system will electronically serve notice of the filing of this document on the following parties:

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PRICE REGULATION & ACCOUNTING III: Cost of Capital Overview

NARUC Energy Regulatory Partnership Program

The Public Services Regulatory Commission of Armenia
and The Iowa Utilities Board



by Chancy Bittner
Utilities Specialist
Iowa Utilities Board
November 8, 2010

REVENUE REQUIREMENT = COST OF SERVICE

$$RR = O + D + T + \mathbf{ROR} * (RB)$$

- RR = revenue requirement
- O = operating expenses
- D = depreciation expense
- T = taxes
- ***ROR = a fair rate of return***
- RB = rate base



RATE OF RETURN

What goes into determining a fair rate of return?

- Simply speaking, it must include normal profits as well as interest on debt capital and dividends on preferred stock.
- Mechanically, we use a weighted average cost of capital (**WACC**) to calculate "**ROR**."



WACC EXAMPLE

	Amount	Percent	Cost Rate	Weight
Debt	\$ 500	50%	6%	3.0%
Preferred Equity	\$100	10%	8%	0.8%
Common Equity	\$400	40%	12%	4.8%
Total	\$1,000			8.6%

WACC: $6.0\% \times 50\% + 8\% \times 10\% + 12\% \times 40\% = 8.6\%$



COMPONENTS OF "ROR"

A number of component issues:

- Capital structure issues (Leslie)
- Senior securities rates (Leslie)
- Cost of Equity (Chancy)



COST OF EQUITY OVERVIEW



JUDICIAL GUIDANCE

- Bluefield (1923)
- Hope (1944)
- Permian Basin (1968)



BLUEFIELD (1923)

- "The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management to maintain and support its credit and to enable the utility to raise (necessary capital)."
- A fair return can change along with economic conditions and capital markets



HOPE (1944)

- "The return to the *equity* owner should be *commensurate with returns on investments in other enterprises having corresponding risks.* That return, moreover, should be sufficient to assure confidence in the *financial integrity* of the enterprise, so as to maintain its credit and *attract capital.*"
- It is the *end result* that is important and not the methods used to arrive at the rates.



PERMIAN BASIN(1968)

"[T]he 'end-result' of the Commission's orders must be measured as much by the success with which they protect those (broad public) interests as by the effectiveness with which they maintain credit ... and ... attract capital."



WHAT MAIN STANDARDS COME FROM THIS JUDICIAL HISTORY?

- Comparable Earnings
- Financial Integrity
- Capital Attraction
- End-result Doctrine



WHAT FORM HAVE THESE STANDARDS TAKEN IN PRACTICE?

- These collectively reflect the economic concept of "opportunity cost" principle.
- A utility and its investors should be afforded an opportunity (not a guarantee) to earn a return commensurate with returns they could expect to achieve on investments of similar risk.



ARE THERE OTHER GUIDELINES TO ALSO CONSIDER?

- Balancing of investor and consumer interests.
- Efficient and economical management is a necessary prerequisite.
- No single rate can be considered fair at all times.
- Concept represents a "zone of reasonableness."



COST OF COMMON EQUITY

- What do investors **expect** (up front) as a return for investment of a given risk?
- We don't know!
 - Analysts use models and theories, using data from capital markets, to make educated guesses!



TYPICAL COST OF EQUITY MODELS

- Discounted Cash Flow Models (DCF)
- Risk Premium Models (RPM)
- Capital Asset Pricing Models (CAPM)
- Comparative Earnings Models (CEM)



VARIABILITY IN APPLICATION

- Some put main reliance on just one model - others argue for many.
- Form of models varies.
- Data inputs vary.
- Adjustments vary.
- Risk assessment varies.
- Proxies vary.
- Judgment needed at every step.



PROXIES

- Models require data.
- If utility is not publicly traded, then analysts use publicly traded companies whose risk is comparable to the utility's operations.
- Generally comparable companies (proxies) are analyzed in addition to utility or its parent.



DISCOUNTED CASH FLOW (DCF) MODEL

$K = D/P + g$, where:

- K = cost of equity estimate
- P = stock price per share
- D = dividend per share
- D/P = dividend yield
- g = sustainable growth rate



SIMPLE DCF EXAMPLE

Assume:

- $P = \$10$;
- $D = \$1$; and
- $g = 2\%$

Calculation of cost of equity estimate:

- $K = D/P + g$
- $K = \$1/10 + 2\% = 12\%$



RECENT CASE— DCF DIFFERENCES

	Utility	OCA	Intervener
Dividend	$D_0(1+0.5g)$	D_0	$D_0(1+g)$
Price	Spot & average of daily hi/lows for 2 months	Test year daily Average	Average of weekly hi/lows over 13 weeks
Growth	Analysts' 5-yr. forecasts of Earnings per Share	Emphasized history <ul style="list-style-type: none"> ○ Internal Growth ○ Book Value per Share 	Analysts' 5-yr. forecasts of Earnings per Share
Proxies	<ul style="list-style-type: none"> ○ Electric ○ Combination Electric/Gas ○ Parent 	<ul style="list-style-type: none"> ○ Combination Electric/Gas ○ Parent 	<ul style="list-style-type: none"> ○ Group of Electric & Combination Electric/Gas

D_0 = Most recent indicated annualized dividend; OCA = Office of Consumer Advocate

RESULTING DCF ESTIMATES

Party	Methods Used	Results
Utility	Indicated DCF Return (using 18 utility proxies)	9.49 - 10.13%
Utility	Recommended DCF Return (rejecting 9 out of 18 utility proxies)	10.44 - 11.51%
OCA	DCF Return (using parent and 5 utility proxies)	8.6 - 10.1%
Intervener	2-stage growth DCF Return (using 17 utility proxies)	9.96%



RISK PREMIUM METHOD (RP)

- $K = \text{cost of debt} + \text{risk premium}$:
 - Based on assumption that riskier security deserves a higher return than less risky ones.
- Is it as easy as it looks?
 - Easy to add two numbers.
 - Difficult to ascertain the risk premium, an “unknown” that must be estimated.
 - Easy to mismatch the two numbers.



HOW ARE RISK PREMIUMS ESTIMATED?

- Historic (ex post) — comparing past returns on debt and equity.
- Expected (ex ante) — compares an estimated market cost of equity for a period with the yield on debt for that period.
- Survey.
- Implied RP — compares authorized returns with debt yields.



POINTS OF CONTENTION

- What bond yield to use for R_F ?
- Which periods to study?
 - RP estimates are very sensitive to time period studied
- Does the RP vary inversely with interest rates?
- Even how to calculate averages.
 - arithmetic versus geometric



BOARD RP METHOD

K = A-rated utility bond average + risk premium (RP), where RP ranges from 250 - 450 basis points.

Recent Case example:

$$K = 6.49\% + (250 \text{ to } 450) \text{ b.p.} = 8.99\% - 10.99\%$$



RP RESULTS IN RECENT CASE

Party	Methods Used	Results
Utility	RP using Utility Proxies	11.3 - 11.54%
Utility	RP using Deregulated Generation Proxies	14.25%
OCA	Did not use method	
Intervener	RP using Utility Proxies	9.96 - 10.06%
Board Method	Using latest 12-month average A-rated bond yield	8.99 - 10.99%



CAPITAL ASSET PRICING MODEL

$K = R_F + \beta (R_M - R_F)$, where:

- K = required equity return
- R_F = risk free rate
- β = beta (a measure of risk)
- R_M = return on the market
- $R_M - R_F$ = market risk premium



CAPM EXAMPLE

Assume:

- $R_F = 6.0\%$
- $\beta = 0.5$, not atypical for a utility
- $R_M = 14\%$

$$K = 6.0\% + .05*(14\%-6.0\%) = 10\%$$



POINTS OF CONTENTION

- What bond yield to use for R_F ?
- How to calculate R_M and on what market proxy?
- What betas to use?
- Arithmetic versus geometric averaging.
- Validity of CAPM sometimes an issue.



CAPM RESULTS IN RECENT CASE

Party	Methods Used	Results
Utility	CAPM using Utility Proxies	11.38 - 11.85%
Utility	CAPM using Deregulated Generation Proxies	15.12%
OCA	CAPM of Parent and Utility Proxies	9.3 - 10.1%
Intervener	CAPM	10.45%



COMPARABLE EARNINGS METHOD

- Examines realized earnings on book common equity for enterprises with comparable risks.
- The Board has rejected due to its emphasis on accounting returns rather than market returns.



BASIC APPROACH

- Select set of proxy companies by screening on a number of risk criteria:
 - Beta
 - Quality ratings, etc.
- Calculate average return on net worth of proxy companies.
- Adjust result as needed to reflect differences between proxies and utility.



ARGUMENTS FOR

- Easy to calculate.
- Uses readily available accounting data.
- Uses minimum amount of subjective judgment.
- Consistent with "corresponding risk" standard of Bluefield and Hope cases.

ARGUMENTS AGAINST

- Not a market-based cost of common equity.
- Does not measure the current cost of capital necessary to attract capital or investors' return requirements.
- Accounting practices among companies differ.
- Reflects survivor bias.



COMPARABLE EARNINGS RESULTS IN RECENT CASE

Party	Methods Used	Results
Utility	Comparable Earning Model using Utility Proxies	14.32 - 15.5%
Utility	Comparable Earning Model using Deregulated Generation Proxies	14.52%
OCA	Argued against	
Intervener	Argued against	



SUMMARY OF CASE

Analysis Considered by Board	Staff's Recommended Emphasis to Board
DCF Analysis	9.2 - 10.13%
Risk Premium Analysis	8.99 - 10.99%
CAPM Analysis	Limit weight
Comparable Earnings Analysis	Do not use
Average authorized returns—other states; for reality check only	10.3 - 10.4%
Resulting Board Decision**	10.1%

** Simplified for illustration. Actual Board decision also considered other variables.



TO SUM UP AND RECAP

- Judicial Standards support cost of equity capital as estimate of a fair rate of return on equity.
- Application of models present educated guesses.
- And from that, the Board chooses the allowed return on equity (which feeds into the WACC).



ANYTHING ELSE?

- Yes, it's not this simple!
- But this 1,000 foot flyover gives an overview.
- The job is to identify an island of rationality among the sea of conflicting data and theory.
- And like a pilot landing a plane, as long as the Board hits a zone of reasonableness, its doing it's job!



QUESTIONS?



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[NARUC Energy Regulatory Partnership Program](#)
The Public Services Regulatory Commission of Armenia
and The Iowa Utilities Board

Major energy rate case decisions in US

Electric and gas rate case decisions as of June 30, 2023

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Table 1: Average ROEs authorized, 1990–June 2023

Year	Period	Electric utilities			Gas utilities		
		Average ROE (%)	Median ROE (%)	Number of observations	Average ROE (%)	Median ROE (%)	Number of observations
1990	Full year	12.70	12.77	38	12.68	12.75	33
1991	Full year	12.54	12.50	42	12.45	12.50	31
1992	Full year	12.09	12.00	45	12.02	12.00	28
1993	Full year	11.46	11.50	28	11.37	11.50	40
1994	Full year	11.21	11.13	28	11.24	11.27	24
1995	Full year	11.58	11.45	28	11.44	11.30	13
1996	Full year	11.40	11.25	18	11.12	11.25	17
1997	Full year	11.33	11.58	10	11.30	11.25	12
1998	Full year	11.77	12.00	10	11.51	11.40	10
1999	Full year	10.72	10.75	6	10.74	10.65	6
2000	Full year	11.58	11.50	9	11.34	11.16	13
2001	Full year	11.07	11.00	15	10.96	11.00	5
2002	Full year	11.21	11.28	14	11.17	11.00	19
2003	Full year	10.96	10.75	20	10.99	11.00	25
2004	Full year	10.81	10.70	21	10.63	10.50	22
2005	Full year	10.51	10.35	24	10.41	10.40	26
2006	Full year	10.32	10.23	26	10.40	10.50	15
2007	Full year	10.30	10.20	38	10.22	10.20	35
2008	Full year	10.41	10.30	37	10.39	10.45	32
2009	Full year	10.52	10.50	41	10.22	10.26	30
2010	Full year	10.37	10.30	61	10.15	10.10	39
2011	Full year	10.29	10.17	42	9.92	10.03	16
2012	Full year	10.17	10.08	58	9.94	10.00	35
2013	Full year	10.03	9.95	49	9.68	9.72	21
2014	Full year	9.91	9.78	38	9.78	9.78	26
2015	Full year	9.84	9.60	31	9.60	9.68	16
2016	Full year	9.77	9.75	42	9.54	9.50	26
2017	Full year	9.74	9.60	53	9.72	9.60	24
	Q1	9.75	9.90	13	9.68	9.80	6
	Q2	9.54	9.50	13	9.43	9.50	7
	Q3	9.67	9.70	11	9.69	9.60	13
	Q4	9.42	9.50	11	9.53	9.60	14
2018	Full year	9.60	9.58	48	9.59	9.60	40
	Q1	9.73	9.70	12	9.55	9.70	4
	Q2	9.58	9.50	12	9.73	9.73	3
	Q3	9.55	9.60	7	9.80	9.90	3
	Q4	9.71	9.70	16	9.74	9.70	23
2019	Full year	9.66	9.65	47	9.72	9.70	33
	Q1	9.58	9.50	19	9.35	9.40	9
	Q2	9.55	9.45	9	9.55	9.65	3
	Q3	9.30	9.33	10	9.52	9.45	8
	Q4	9.32	9.50	17	9.50	9.60	15
2020	Full year	9.44	9.45	55	9.47	9.44	35
	Q1	9.46	9.25	10	9.71	9.74	10
	Q2	9.39	9.43	11	9.48	9.42	6
	Q3	9.38	9.40	13	9.43	9.50	11
	Q4	9.34	9.40	21	9.59	9.63	16
2021	Full year	9.38	9.38	55	9.56	9.60	43
	Q1	9.35	9.25	12	9.38	9.40	6
	Q2	9.45	9.20	7	9.23	9.23	3
	Q3	9.34	9.35	8	9.52	9.40	8
	Q4	9.71	9.80	26	9.65	9.63	16
2022	Full year	9.54	9.50	53	9.53	9.60	33
2023	Q1	9.71	9.68	10	9.75	9.60	7
	Q2	9.44	9.35	11	9.45	9.50	3
	1st half	9.56	9.35	21	9.66	9.56	10
LTM ended 6/30/2023		9.60	9.50	55	9.62	9.60	34

Data compiled July 26, 2023.

ROE = return on equity; LTM = last 12 months.

Source: Regulatory Research Associates, a group within S&P Global Commodity Insights.

Table 2: Electric and gas utilities summary

Electric utilities										
Year	Period	ROR (%)	Number of observations	ROE (%)	Number of observations	Common equity to total capital (%)	Number of observations	Rate change amount (\$M)	Number of observations	
2004	Full year	8.71	20	10.81	21	46.96	19	1,806.3	29	
2005	Full year	8.44	23	10.51	24	47.34	23	936.1	31	
2006	Full year	8.32	26	10.32	26	48.54	25	1,318.1	39	
2007	Full year	8.18	37	10.30	38	47.88	36	1,405.7	43	
2008	Full year	8.21	39	10.41	37	47.94	36	2,823.2	44	
2009	Full year	8.28	41	10.52	41	48.36	40	4,191.7	58	
2010	Full year	8.01	62	10.37	61	48.63	57	4,921.9	78	
2011	Full year	8.00	43	10.29	42	48.26	42	2,595.1	56	
2012	Full year	7.95	51	10.17	58	50.69	52	3,080.7	69	
2013	Full year	7.66	45	10.03	49	49.25	43	3,328.6	61	
2014	Full year	7.60	32	9.91	38	50.28	35	2,053.7	51	
2015	Full year	7.35	36	9.84	31	49.23	31	1,963.2	53	
2016	Full year	7.28	41	9.77	42	48.91	41	2,326.1	58	
2017	Full year	7.18	48	9.74	53	48.90	48	2,695.6	77	
2018	Full year	6.93	49	9.60	48	49.02	49	1,880.4	67	
2019	Full year	6.97	44	9.66	47	49.94	40	1,661.2	63	
2020	Full year	6.85	56	9.44	55	49.67	55	2,299.4	69	
	Q1	6.79	11	9.46	10	49.98	11	850.6	15	
	Q2	6.95	8	9.43	11	50.30	8	961.0	13	
	Q3	6.98	14	9.38	13	50.15	12	980.5	21	
	Q4	6.64	20	9.34	21	49.95	19	3,321.8	32	
2021	Full year	6.81	53	9.38	55	50.06	50	6,113.9	81	
	Q1	6.63	13	9.35	12	49.88	13	463.4	17	
	Q2	6.71	7	9.45	7	50.04	7	828.7	14	
	Q3	7.24	6	9.34	8	51.19	7	434.2	13	
	Q4	6.93	27	9.71	26	50.47	26	2,545.1	33	
2022	Full year	6.86	53	9.54	53	50.36	53	4,271.4	77	
2023	Q1	6.80	8	9.71	10	49.36	8	1,436.3	16	
	Q2	6.84	11	9.44	11	51.69	11	194.2	17	
	1st half	6.82	19	9.56	21	50.71	19	1,630.4	33	
LTM ended 6/30/2023		6.93	52	9.60	55	50.65	52	4,609.7	79	

Gas utilities										
Year	Period	ROR (%)	Number of observations	ROE (%)	Number of observations	Common equity to total capital (%)	Number of observations	Rate change amount (\$M)	Number of observations	
2004	Full year	8.51	23	10.63	22	45.81	22	306.0	33	
2005	Full year	8.24	29	10.41	26	48.40	24	465.4	35	
2006	Full year	8.44	17	10.40	15	47.24	16	392.5	23	
2007	Full year	8.11	31	10.22	35	48.47	28	645.3	43	
2008	Full year	8.49	33	10.39	32	50.35	32	700.0	40	
2009	Full year	8.15	29	10.22	30	48.49	29	438.6	36	
2010	Full year	7.99	40	10.15	39	48.70	40	776.5	50	
2011	Full year	8.09	18	9.92	16	52.49	14	367.0	31	
2012	Full year	7.98	30	9.94	35	51.13	32	264.0	41	
2013	Full year	7.43	21	9.68	21	50.60	20	498.7	39	
2014	Full year	7.65	27	9.78	26	51.11	28	544.2	48	
2015	Full year	7.34	16	9.60	16	49.93	16	494.1	40	
2016	Full year	7.08	28	9.54	26	50.06	26	1,263.8	59	
2017	Full year	7.26	24	9.72	24	49.88	24	410.7	54	
2018	Full year	7.00	45	9.59	40	50.12	44	939.1	66	
2019	Full year	7.19	35	9.72	33	51.86	32	1,461.4	64	
2020	Full year	6.99	37	9.47	35	51.87	36	1,048.9	60	
	Q1	7.13	12	9.71	10	51.92	11	290.7	16	
	Q2	6.89	5	9.48	6	50.56	5	69.9	8	
	Q3	6.66	13	9.43	11	49.50	12	214.3	22	
	Q4	6.67	17	9.59	16	51.34	18	760.8	28	
2021	Full year	6.81	47	9.56	43	50.92	46	1,335.7	74	
	Q1	6.68	3	9.38	6	50.24	5	144.9	9	
	Q2	6.91	4	9.23	3	52.77	4	36.9	7	
	Q3	6.85	7	9.52	8	50.52	7	461.0	12	
	Q4	7.03	17	9.65	16	51.75	17	770.1	27	
2022	Full year	6.94	31	9.53	33	51.38	33	1,413.0	55	
2023	Q1	6.90	8	9.75	7	53.89	7	233.4	11	
	Q2	6.97	3	9.45	3	54.17	3	80.7	7	
	1st half	6.92	11	9.66	10	53.97	10	314.1	18	
LTM ended 6/30/2023		6.96	35	9.62	34	52.15	34	1,559.0	58	

Data compiled July 26, 2023.

ROR = rate of return; ROE = return on equity; LTM = last 12 months.

Source: Regulatory Research Associates, a group within S&P Global Commodity Insights.

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Table 3: Electric authorized ROEs

Settled vs. fully litigated cases									
Year	All cases			Settled cases			Fully litigated cases		
	Average ROE (%)	Median ROE (%)	Number of observations	Average ROE (%)	Median ROE (%)	Number of observations	Average ROE (%)	Median ROE (%)	Number of observations
2007	10.30	10.20	38	10.42	10.33	14	10.23	10.15	24
2008	10.41	10.30	37	10.43	10.25	17	10.39	10.54	20
2009	10.52	10.50	41	10.61	10.61	17	10.45	10.50	24
2010	10.37	10.30	61	10.39	10.30	34	10.35	10.10	27
2011	10.29	10.17	42	10.12	10.07	16	10.39	10.25	26
2012	10.17	10.08	58	10.06	10.00	29	10.28	10.25	29
2013	10.03	9.95	49	10.12	9.98	32	9.85	9.75	17
2014	9.91	9.78	38	9.73	9.75	17	10.05	9.83	21
2015	9.84	9.60	31	10.04	9.60	15	9.66	9.62	16
2016	9.77	9.75	42	9.80	9.85	17	9.74	9.60	25
2017	9.74	9.60	53	9.75	9.60	29	9.73	9.56	24
2018	9.60	9.58	48	9.57	9.63	26	9.63	9.53	22
2019	9.66	9.65	47	9.76	9.73	20	9.58	9.50	27
2020	9.44	9.45	55	9.46	9.45	23	9.43	9.41	32
2021	9.38	9.38	55	9.57	9.50	25	9.22	9.20	30
2022	9.54	9.50	53	9.62	9.50	21	9.48	9.35	32
H1'23	9.56	9.35	21	9.68	9.75	9	9.48	9.35	12
LTM ended 6/30/2023	9.60	9.50	55	9.73	9.60	23	9.50	9.35	32

General rate cases vs. limited-issue riders									
Year	All cases			General rate cases			Limited-issue riders		
	Average ROE (%)	Median ROE (%)	Number of observations	Average ROE (%)	Median ROE (%)	Number of observations	Average ROE (%)	Median ROE (%)	Number of observations
2007	10.30	10.20	38	10.32	10.23	36	9.90	9.90	1
2008	10.41	10.30	37	10.37	10.30	35	11.11	11.11	2
2009	10.52	10.50	40	10.52	10.50	39	10.55	10.55	2
2010	10.37	10.30	61	10.29	10.26	58	11.87	12.30	3
2011	10.29	10.17	42	10.19	10.14	40	12.30	12.30	2
2012	10.17	10.08	58	10.02	10.00	51	11.57	11.40	6
2013	10.03	9.95	49	9.82	9.82	40	11.34	11.40	7
2014	9.91	9.78	38	9.76	9.75	32	10.96	11.00	5
2015	9.84	9.60	31	9.60	9.53	23	10.87	11.00	6
2016	9.77	9.75	42	9.60	9.60	32	10.31	10.55	10
2017	9.74	9.60	53	9.68	9.60	42	10.01	9.95	10
2018	9.60	9.58	48	9.56	9.58	38	9.74	9.70	10
2019	9.66	9.65	47	9.65	9.65	33	9.68	9.31	14
2020	9.44	9.45	55	9.39	9.48	42	9.62	9.20	13
2021	9.38	9.38	55	9.39	9.50	35	9.37	9.20	19
2022	9.54	9.50	53	9.52	9.50	32	9.56	9.35	21
H1'23	9.56	9.35	21	9.64	9.68	12	9.46	9.35	9
LTM ended 6/30/2023	9.60	9.50	55	9.60	9.68	36	9.59	9.35	19

Vertically integrated cases vs. distribution-only cases									
Year	All cases			Vertically integrated cases			Distribution-only cases		
	Average ROE (%)	Median ROE (%)	Number of observations	Average ROE (%)	Median ROE (%)	Number of observations	Average ROE (%)	Median ROE (%)	Number of observations
2007	10.30	10.20	38	10.50	10.45	26	9.86	9.98	10
2008	10.41	10.30	37	10.48	10.47	26	10.04	10.25	9
2009	10.52	10.50	41	10.66	10.66	28	10.16	10.25	11
2010	10.37	10.30	61	10.42	10.40	41	9.98	10.00	17
2011	10.29	10.17	42	10.33	10.20	28	9.85	10.00	12
2012	10.17	10.08	58	10.10	10.20	39	9.75	9.73	12
2013	10.03	9.95	49	9.95	10.00	31	9.37	9.36	9
2014	9.91	9.78	38	9.94	9.90	19	9.49	9.55	13
2015	9.84	9.60	31	9.75	9.70	17	9.17	9.07	6
2016	9.77	9.75	42	9.77	9.78	20	9.31	9.33	12
2017	9.74	9.60	53	9.80	9.65	28	9.43	9.55	14
2018	9.60	9.58	48	9.68	9.73	23	9.38	9.50	15
2019	9.66	9.65	47	9.74	9.73	25	9.37	9.60	8
2020	9.44	9.45	55	9.55	9.50	27	9.10	9.30	15
2021	9.38	9.38	55	9.53	9.50	25	9.04	9.45	10
2022	9.54	9.50	53	9.69	9.56	23	9.11	9.20	9
H1'23	9.56	9.35	21	9.70	9.75	9	9.47	9.35	3
LTM ended 6/30/2023	9.60	9.50	55	9.73	9.75	27	9.22	9.50	9

Data compiled July 26, 2023.

ROE = return on equity; LTM = last 12 months.

Source: Regulatory Research Associates, a group within S&P Global Commodity Insights.

Table 4: Gas authorized ROEs

Settled vs. fully litigated cases									
Year	All cases			Settled cases			Fully litigated cases		
	Average ROE (%)	Median ROE (%)	Number of observations	Average ROE (%)	Median ROE (%)	Number of observations	Average ROE (%)	Median ROE (%)	Number of observations
2007	10.22	10.20	35	10.24	10.18	22	10.20	10.40	13
2008	10.39	10.45	32	10.34	10.28	20	10.47	10.68	12
2009	10.22	10.26	30	10.43	10.40	13	10.05	10.15	17
2010	10.15	10.10	39	10.30	10.15	12	10.08	10.10	27
2011	9.92	10.03	16	10.08	10.08	8	9.76	9.80	8
2012	9.94	10.00	35	9.99	10.00	14	9.92	9.90	21
2013	9.68	9.72	21	9.80	9.80	9	9.59	9.60	12
2014	9.78	9.78	26	9.51	9.50	11	9.98	10.10	15
2015	9.60	9.68	16	9.60	9.60	11	9.58	9.80	5
2016	9.54	9.50	26	9.50	9.50	16	9.61	9.58	10
2017	9.72	9.60	24	9.68	9.60	17	9.82	9.50	7
2018	9.59	9.60	40	9.59	9.60	23	9.59	9.50	17
2019	9.72	9.70	33	9.70	9.70	21	9.74	9.72	12
2020	9.47	9.44	35	9.48	9.50	23	9.44	9.42	12
2021	9.56	9.60	43	9.53	9.50	30	9.63	9.67	13
2022	9.53	9.60	33	9.47	9.40	24	9.67	9.80	9
H1'23	9.66	9.56	10	9.45	9.50	5	9.87	9.60	5
LTM ended 6/30/2023	9.62	9.60	34	9.52	9.50	21	9.78	9.80	13

General rate cases vs. limited-issue riders									
Year	All cases			General rate cases			Limited-issue riders		
	Average ROE (%)	Median ROE (%)	Number of observations	Average ROE (%)	Median ROE (%)	Number of observations	Average ROE (%)	Median ROE (%)	Number of observations
2007	10.22	10.20	35	10.22	10.20	35	—	—	0
2008	10.39	10.45	32	10.39	10.45	32	—	—	0
2009	10.22	10.26	30	10.22	10.26	30	—	—	0
2010	10.15	10.10	39	10.15	10.10	39	—	—	0
2011	9.92	10.03	16	9.91	10.05	15	10.00	10.00	1
2012	9.94	10.00	35	9.93	10.00	34	10.40	10.40	1
2013	9.68	9.72	21	9.68	9.72	21	—	—	0
2014	9.78	9.78	26	9.78	9.78	26	—	—	0
2015	9.60	9.68	16	9.60	9.68	16	—	—	0
2016	9.54	9.50	26	9.53	9.50	25	9.70	9.70	1
2017	9.72	9.60	24	9.73	9.60	23	9.50	9.50	1
2018	9.59	9.60	40	9.59	9.60	39	9.50	9.50	1
2019	9.72	9.70	33	9.73	9.73	31	9.60	9.60	2
2020	9.47	9.44	35	9.47	9.44	35	—	—	0
2021	9.56	9.60	43	9.56	9.60	43	—	—	0
2022	9.53	9.60	33	9.53	9.60	33	—	—	0
H1'23	9.66	9.56	10	9.58	9.54	8	10.00	10.00	2
LTM ended 6/30/2023	9.62	9.60	34	9.60	9.60	32	10.00	10.00	2

Data compiled July 26, 2023.

ROE = return on equity; LTM = last 12 months; — = no observations.

Source: Regulatory Research Associates, a group within S&P Global Commodity Insights.

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Table 5: Electric and gas utility decisions

Electric utility decisions									
Date	Co.	State	ROR (%)	ROE (%)	Common equity as % of capital	Test year	Rate base	Rate change amount (\$M)	Footnotes
1/19/23	Consumers Energy Co.	MI	—	9.90	—	12/23	Average	155.0	B
1/23/23	Minnesota Power Enterprises Inc.	MN	7.12	9.65	52.50	12/22	Average	58.6	I
1/25/23	Northern Indiana Public Service Co. LLC	IN	—	—	—	7/22	Year-end	6.6	L,R,1
1/26/23	Cheyenne Light, Fuel and Power Co.	WY	7.48	9.75	52.00	12/21	Year-end	20.1	B
1/26/23	Virginia Electric and Power Co.	VA	6.83	9.35	52.29	3/24	Average	16.9	L,R,2,2
2/9/23	Pacific Gas and Electric Co.	CA	—	—	—	—	—	1,037.9	B, L,R,3
2/9/23	Appalachian Power Co.	WV	—	—	—	2/22	—	0.0	L,R,4
2/9/23	Duke Energy Progress LLC	SC	6.83	9.60	52.43	12/21	Year-end	52.3	W
2/16/23	Electric Transmission Texas LLC	TX	—	—	—	6/22	—	14.0	T,B,W
2/17/23	Southwestern Electric Power Co.	LA	—	9.50	—	—	—	27.0	B
2/21/23	Electric Transmission Texas LLC	TX	—	—	—	9/22	Year-end	—	—
2/23/23	Virginia Electric and Power Co.	VA	7.36	10.35	52.29	3/24	Average	-15.6	L,R,2,5
2/27/23	Virginia Electric and Power Co.	VA	6.83	9.35	52.29	3/24	Average	-20.7	L,R,6
3/2/23	Oklahoma Gas and Electric Co.	OK	5.33	—	38.57	3/22	Average	9.6	B,7
3/9/23	Oncor Electric Delivery Co. LLC	TX	6.65	9.70	42.50	12/21	Year-end	100.5	D
3/23/23	Wind Energy Transmission Texas LLC	TX	—	—	—	—	—	-8.7	B, T
3/24/23	Upper Peninsula Power Co.	MI	—	9.90	—	6/24	Average	10.8	B
2023	Q1 averages/total		6.80	9.71	49.36			1,436.3	
	Observations		8	10	8			16.0	
4/6/23	Virginia Electric and Power Co.	VA	6.83	9.35	52.29	5/24	Average	1.0	L,R,9
4/10/23	Virginia Electric and Power Co.	VA	6.83	9.35	52.29	5/24	Average	-9.4	L,R,9
4/14/23	Virginia Electric and Power Co.	VA	6.83	9.35	52.29	4/24	Average	18.1	L,R,10
4/27/23	Liberty Utilities (CalPlex Electric) LLC	CA	—	—	—	—	—	26.1	B
4/27/23	Virginia Electric and Power Co.	VA	6.83	9.35	52.29	5/24	Average	-41.2	L,R,11
5/1/23	Virginia Electric and Power Co.	VA	—	—	—	—	—	-54.9	L,R,12
5/1/23	Virginia Electric and Power Co.	VA	—	—	—	—	—	-191.3	L,R,13
5/1/23	Virginia Electric and Power Co.	VA	—	—	—	—	—	-105.5	L,R,14
5/30/23	Southern Indiana Gas and Electric Co.	IN	—	—	—	10/23	Year-end	11.5	L,R,1
5/31/23	Versar Power	ME	6.59	9.35	49.00	12/21	Average	30.4	B, D, Z
6/1/23	Northern States Power Co.	MN	6.95	9.25	52.50	12/24	Average	306.0	Z, 1
6/6/23	Central Maine Power Co.	ME	6.74	9.35	50.00	—	—	67.0	B, D, Z
6/6/23	MDU Resources Group, Inc.	MD	7.19	9.75	50.81	12/23	Average	10.9	B, 1
6/6/23	Northern States Power Co.	SD	6.82	—	—	12/21	Average	44.6	B, 1
6/12/23	Virginia Electric and Power Co.	VA	6.83	9.35	52.29	8/24	Average	-2.3	L,R,15
6/14/23	Union Electric Co.	MO	—	—	—	3/22	—	140.0	B
6/15/23	Virginia Electric and Power Co.	VA	6.83	9.35	52.29	8/24	Average	-56.9	L,R,16
	2nd quarter averages/total		6.84	9.44	51.69			194.2	
	Observations		11	11	11			17.0	
2023	1st half averages/total		6.82	9.56	50.71			1,630.4	
	Observations		19	21	19			33.0	

Gas utility decisions									
Date	Co.	State	ROR (%)	ROE (%)	Common equity as % of capital	Test year	Rate base	Rate change amount (\$M)	Footnotes
1/19/23	Texas Gas Service Co. Inc.	TX	7.38	9.60	59.74	12/21	Year-end	8.8	
1/23/23	Southwest Gas Corp.	AZ	6.73	9.50	50.00	8/21	Year-end	54.3	B
1/23/23	Roanoke Gas Co.	VA	7.90	10.44	59.63	9/23	Average	1.0	L,R,17
1/24/23	Florida Public Utilities Co.	FL	5.97	10.25	45.16	12/23	Average	17.2	I
1/25/23	Indiana Gas Co. Inc.	IN	—	—	—	6/22	Year-end	22.9	L,R,1
1/25/23	Southern Indiana Gas and Electric Co.	IN	—	—	—	6/22	Year-end	10.2	L,R,1
1/26/23	Columbia Gas of Ohio Inc.	OH	7.08	9.60	50.60	12/21	Date Certain	68.2	B
1/27/23	Atmos Energy Corp.	KS	—	—	—	12/22	Year-end	0.8	L,R,18
3/23/23	Northern States Power Co.	MN	6.97	9.57	52.50	12/22	Average	20.9	B, 1
3/28/23	Pivotal Utility Holdings Inc.	FL	6.44	9.50	59.60	12/23	Average	23.3	
3/28/23	MidAmerican Energy Co.	SD	6.75	—	—	12/21	Average	5.9	B, Z, 1
2023	Q1 averages/total		6.90	9.75	53.89			233.4	
	Observations		8	7	7			11	
4/20/23	Spirin Missouri Inc.	MO	—	—	—	2/23	Year-end	7.7	L,R,19
5/4/23	Atmos Energy Corp.	CO	7.00	9.30	58.00	3/22	Average	-0.7	B
5/9/23	Atmos Energy Corp.	KS	—	—	—	3/22	—	5.7	B
5/15/23	Columbia Gas of Virginia Inc.	VA	—	—	—	9/23	—	40.3	B, 1
5/25/23	Atmos Energy Corp.	KY	6.94	9.55	54.50	9/23	Average	1.6	L,R,20
6/15/23	National Fuel Gas Distribution Corp.	PA	—	—	—	7/24	—	23.0	B
6/30/23	Intermountain Gas Co.	ID	6.97	9.50	50.00	12/22	Average	3.1	B
	2nd quarter averages/total		6.97	9.45	54.17			80.7	
	Observations		3	3	3			7	
2023	1st half averages/total		6.92	9.66	53.97			314.1	
	Observations		11	10	10			18	

Data compiled July 26, 2023.
ROR = rate of return; ROE = return on equity.
Source: Regulatory Research Associates, a group within S&P Global Commodity Insights.
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Footnotes

A Average.

B Order followed stipulation or settlement by the parties. Decision particulars not necessarily precedent-setting or specifically adopted by the regulatory body.

D Applies to electric delivery only.

I Interim rates implemented prior to the issuance of final order, normally under bond and subject to refund.

L,R Limited-issue rider proceeding.

NA Not available at the time of publication.

T Transmission-only case.

W Case was withdrawn.

Z Rate change implemented in multiple steps.

• Capital structure includes cost-free items or tax credit balances at the overall rate of return.

1 Case established the rates to be charged to customers under the company's "transmission, distribution, and storage system improvement charge" statute.

2 Rate change approved under Rider B, which is the mechanism through which the company recovers the costs associated with the conversion of the Altavista, Hopewell and Southampton power stations to burn biomass fuels.

3 Rate increase authorized for the recovery of expenditures related to wildfire mitigation, COVID-19 costs and several other activities.

4 Electric rate change under expanded net energy cost proceeding.

5 Rate change approved under Rider W, which is the mechanism through which the company recovers its investment in the Warren County generation facility.

6 Rate change approved under Rider U, which is the mechanism through which the company recovers its investment in projects to underground certain "at risk" distribution facilities.

7 Rate change approved under the company's formula rate plan.

8 Rate change approved under Rider US-4, which is the mechanism through which the company recovers its investment in the 100 MW utility-scale solar generation plant known as the Sadler Solar Facility.

9 Rate change approved under Rider US-3, which is the mechanism through which the company recovers its investment in two utility-scale solar generation facilities — the 142 MW Colonial Trail West Solar Facility and the 98 MW AC Spring Grove 1 Solar Facility.

10 Rate change approved under Rider CE, which is the mechanism through which the company recovers its investment under the Clean Economy Act.

11 Rate change approved under Rider GT, which is the mechanism through which the company recovers its investments in its Grid Transformation Plan, a 10-year plan to transform its distribution grid to meet the changing landscape of the energy industry while continuing to provide reliable service to custom

12 Rate change approved under Rider R, which is the mechanism through which the company recovers its investment in the Bear Garden power plant. As required by legislation enacted in April 2023, the rider was eliminated, and the related investment is now considered part of the "legacy" generation and d

13 Rate change approved under Rider S, which is the mechanism through which the company recovers its investment in the Virginia City Hybrid Energy Center. As required by legislation enacted in April 2023, the rider was eliminated, and the related investment is now considered part of the "legacy" generat

14 Rate change approved under Rider W, which is the mechanism through which the company recovers its investment in the Warren County generation facility. As required by legislation enacted in April 2023, the rider was eliminated, and the related investment is now considered part of the "legacy" generat

15 Rate change approved under Rider US-2, which is the mechanism through which the company recovers its investment in three utility-scale solar facilities — Scott Solar, Whitehouse Solar and Woodland Solar.

16 Rate change approved under Rider SNA, which is the mechanism through which the company recovers its investment in the Surry and North Anna nuclear plants.

17 Rate change approved under renewable natural gas rider.

18 Rate change approved under system integrity program rider.

19 Rate change approved under company's infrastructure system replacement surcharge rider.

20 Rate change approved under company's pipe replacement program.

Table 6: Composite electric and gas annual authorized ROEs

Year	Average ROE (%)	Median ROE (%)	Number of observations	30-year US Treasury yield*
1990	12.69	12.75	71	8.61
1991	12.50	12.50	73	8.14
1992	12.06	12.00	73	7.67
1993	11.40	11.50	68	6.59
1994	11.23	11.22	52	7.37
1995	11.53	11.38	41	6.89
1996	11.26	11.25	35	6.70
1997	11.31	11.28	22	6.61
1998	11.64	11.65	20	5.58
1999	10.73	10.70	12	5.87
2000	11.44	11.25	22	5.94
2001	11.04	11.00	20	5.49
2002	11.19	11.16	33	5.28
2003	10.98	10.75	45	4.92
2004	10.72	10.50	43	5.06
2005	10.46	10.40	50	4.56
2006	10.35	10.25	41	4.88
2007	10.26	10.20	73	4.84
2008	10.40	10.39	69	4.27
2009	10.39	10.40	71	4.07
2010	10.28	10.22	100	4.25
2011	10.19	10.10	58	3.91
2012	10.09	10.00	93	2.92
2013	9.92	9.80	70	3.44
2014	9.86	9.78	64	3.34
2015	9.76	9.60	47	2.84
2016	9.68	9.60	68	2.60
2017	9.73	9.60	77	2.89
2018	9.59	9.60	88	3.11
2019	9.68	9.70	80	2.58
2020	9.45	9.45	90	1.56
2021	9.46	9.43	98	2.06
2022	9.53	9.50	86	3.11
H1'23	9.60	9.50	31	3.78
LTM ended 6/30/2023	9.61	9.60	112	3.67

Data compiled July 26, 2023.

ROE = return on equity; LTM = last 12 months.

*Average of the daily yields.

Source: Regulatory Research Associates, a group within S&P Global Commodity Insights.

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Case No(s). 23-0301-EL-SSO

Summary: Testimony Direct Testimony of Joseph P. Buckley on Behalf of Office of the Ohio Consumers' Counsel electronically filed by Mrs. Tracy J. Greene on behalf of Finnigan, John.