BEFORE THE

RECEIVED 2023 February 15, 4:38PM IDAHO PUBLIC UTILITIES COMMISSION

#### **IDAHO PUBLIC UTILITIES COMMISSION**

IN THE MATTER OF THE APPLICATION OF VEOLIA WATER IDAHO INC. FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR WATER SERVICE IN THE STATE OF IDAHO

CASE NO. VEO-W-22-02

Direct Testimony & Exhibits of

Michael P. Gorman

On behalf of

Micron Technology, Inc.

February 15, 2023

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- Treasury and Utility Bond Yields CAPM Return Exhibit No. 415:
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#### 1 Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Michael P. Gorman. My business address is 16690 Swingley Ridge Road,
Suite 140, Chesterfield, MO 63017.

#### 4 Q WHAT IS YOUR OCCUPATION?

A I am a consultant in the field of public utility regulation and a Managing Principal
with the firm of Brubaker & Associates, Inc. ("BAI"), energy, economic and
regulatory consultants.

### 8 Q PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND

#### 9 **EXPERIENCE.**

10 A This information is included in Appendix A to my testimony.

#### 11 Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?

- 12 A I am appearing on behalf of Micron Technology, Inc., a large customer of Veolia
- 13 Water Idaho Inc. ("Veolia," "VWID," or "the Company").

#### 14 Q WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

- 15 A My testimony will address adjustments to VWID's proposed revenue
- 16 requirement, the overall rate of return including return on equity, embedded debt
- 17 cost of VWID, and analysis of VWID's testimony on these subjects.

18

# Q DOES THE FACT THAT YOU DID NOT ADDRESS EVERY ISSUE RAISED IN WWID'S TESTIMONY MEAN THAT YOU AGREE WITH VWID'S TESTIMONY ON THOSE ISSUES?

- A No. It merely reflects that I did not choose to address all those issues. It should
  not be read as an endorsement of, or agreement with, VWID's position on such
  issues.
- 7 <u>I. SUMMARY</u>

8 Q WILL YOU SUMMARIZE YOUR ADJUSTMENTS TO VWID'S REVENUE
 9 REQUIREMENT AS PRESENTED IN YOUR TESTIMONY?

10 A I recommend several adjustments to VWID's claimed revenue deficiency. As
11 outlined in Table 1 below, I believe the Company's claimed revenue deficiency of
12 \$12.1 million is overstated by approximately \$5.7 million.

	TABLE 1	
	<u>Revenue Requirement Adjustm</u> (\$ Millions)	<u>nents</u>
<u>Line</u>	Description	Amount
1	Claimed Revenue Deficiency	\$12.1
	Adjustments:	
2	Return on Equity	\$ 3.1
3	Sales Forecast	\$ 1.9
4	Labor Expenses	<u>\$ 0.8</u>
5	Total Adjustments	\$ 5.7
6	Adjusted Revenue Deficiency	\$ 6.4

### 1QPLEASE SUMMARIZE YOUR RECOMMENDATIONS AND CONCLUSIONS2ON RATE OF RETURN.

3 А I recommend the Idaho Public Utilities Commission ("the Commission") approve 4 a reasonable return on equity that reflects VWID's investment risk, and charges 5 customers rates that are as low and competitive as possible while also fairly 6 compensating VWID, and maintains its access to capital, financial integrity and 7 credit standing. Specifically, I recommend the Commission award a return on 8 common equity within my recommended range of 9.00% to 9.70%, with a 9 midpoint of 9.35%. My proposed return on equity and the Company's capital 10 structure will result in an overall rate of return of 6.97%, as shown on my Exhibit No. 401. 11

My recommended return on equity will fairly compensate the Company for its current market cost of common equity, and preserve its credit rating, its access to capital on reasonable terms and its financial integrity. My recommended return on equity will also mitigate the Company's claimed revenue deficiency in this proceeding while providing a return that fairly balances the interests of customers and shareholders.

Finally, I respond to VWID witness Mr. Harold Walker's return on equity recommendation. Mr. Walker recommended an equity return in the range of 9.60% to 11.60% and a return on equity point estimate of 10.80%.<sup>1</sup> Mr. Walker's recommended return on equity for VWID substantially exceeds a fair return on equity for the Company's investment risk. Mr. Walker's return on equity is simply excessive and would result in unjust and unreasonable rates for VWID's retail customers.

<sup>&</sup>lt;sup>1</sup> Walker Direct Testimony at pp. 4-5.

### 1QPLEASE SUMMARIZE YOUR PROPOSED ADJUSTMENT TO VWID'S2FORECASTED TEST YEAR SALES.

3 А VWID's forecasted sales for residential customers in the test year ending March 4 31, 2023, reflects a pessimistic projected decline in the residential customer 5 water usage. The Company projects a significant decrease in use per residential 6 customer in the test year ending March 31, 2023, relative to actual annual use 7 over the past three to five years. Specifically, VWID's projected use per 8 customer for the test year is 96.88 thousand gallons per customer compared to 9 the most recent actual use of 105.48 thousand gallons per customer. As a result, 10 VWID's test year sales forecast applies an 8.59 thousand gallons usage 11 adjustment which lowers projected revenues by \$2.4 million. I recommend a 12 more conservative estimate of use per customer in the test year, based on actual 13 normalized historical usage trends, which generally align with declining use the 14 Company has experienced over the past 15 years. This adjustment results in a 15 more reasonable projection of sales and revenue at current rates in the projected 16 test year. This adjustment increases residential sales in the forecasted test year 17 and increases revenue at proposed rates and reduces the Company's projected 18 revenue deficiency by approximately \$1.9 million.

### 19 Q PLEASE SUMMARIZE YOUR PROPOSED ADJUSTMENT TO VWID'S LABOR 20 EXPENSES.

A I adjusted VWID's test year labor expense to remove the cost of budgeted but vacant full-time equivalent ("FTE") employee positions. The Company has not justified the additional employees or explained why they are required and instead relies on a headcount comparison to other utilities. It is not known if VWID will incur the cost of unfilled/vacant FTE positions in the projected test year, and, therefore, the cost of unfilled FTE positions is not a known and measurable cost
that should be included in the test year cost of service. Removing the
hypothetical cost of these vacant positions from VWID's test year budget lowers
the test year cost of service by approximately \$800,000.

5

#### II. SALES FORECAST

### 6 Q PLEASE PROVIDE AN OVERVIEW OF THE COMPANY'S FORECAST OF 7 TEST YEAR REVENUES AT PRESENT AND PROPOSED RATES.

A VWID witness Timothy Michaelson discusses the Company's proof of revenue
9 under present and proposed rates and the development of test year revenues in
10 his direct testimony. As shown on his Exhibit No. 5, Schedule No. 1, Mr.
11 Michaelson forecasts \$51.7 million of revenues in the test year ending March 31,
12 2023, at present rates and \$63.8 million at proposed rates, an increase of \$12.1
13 million.

As part of his analysis, Mr. Michaelson makes four adjustments to his calculation of revenues at present and proposed rates. First, he adjusts revenues by annualizing for gain or loss of customers during the historic test year. Second, he adjusts revenues for a projected increase in the average number of customers. Third, he adjusts revenues for a projected decline in customer usage. Finally, he normalizes the number of bills and volumes for existing Eagle Water Company<sup>2</sup> customers in the historic test year.

21 Mr. Michaelson projects approximately 92,800 residential customers and 22 approximately 105,800 customers total. This includes a gain of 511 customers 23 by March 31, 2023, compared to the historical test year.

<sup>&</sup>lt;sup>2</sup> Eagle Water Company customers became part of VWID in December 2021.

#### 1 Q DO YOU HAVE ANY CONCERNS WITH VWID'S SALES FORECAST?

A Yes. I believe the Company's residential sales forecast underestimates
normalized sales and results in an understated and unreasonable projection of
residential sales in the test year.

### 5QPLEASE EXPLAIN HOW MR. MICHAELSON PROJECTED RESIDENTIAL6SALES REVENUE IN THE FORECASTED TEST YEAR?

7 А Mr. Michaelson's residential and commercial use per customer adjustments take 8 the difference between actual residential or commercial usage in the historical 9 test year and a predicted usage based on his 30-year regression analysis. As a 10 result of his analysis, he applies an 8.59 thousand gallons per residential 11 customer declining usage adjustment. As shown on his Exhibit No. 5, Schedule 12 No. 1, Mr. Michaelson's 8.59 thousand gallons adjustment (or 11.49 CCF 13 adjustment) lowers revenues at proposed rates by \$2.4 million. Applying his 14 adjustment to the 92,800 residential customers lowers water consumption in the 15 test year ending March 31, 2023, by 1.066 million CCF.

### 16QHOW HAS MR. MICHAELSON UNDERSTATED RESIDENTIAL SALES17REVENUE IN THE FORECASTED TEST YEAR?

A Mr. Michaelson provides a graphical comparison of residential and commercial
actual usage versus his predicted usage on Exhibit No. 5, Schedule No. 6 and
Schedule No. 8. I replicated the residential comparison in Figure 1, below.

As shown on the figure, VWID's residential sales forecast projects the Company's test year residential use per customer to be 96.88 thousand gallons per year. This residential sales projection is well below actual residential usage 1 over the last 30 years but more importantly well below actual usage over the 2 most recent three- to five-year period. It is also significant that Mr. Michaelson's 3 annual predicted use per customer during the period 2019 to 2022 was below 4 actual use in every one of those years. In contrast, the Company's projected use 5 per customer prior to 2019 reflected a better fit and more reliable estimate of 6 sales because those projections varied between being above and below actual 7 use. If projected usage is consistently and materially less than actual usage, the test period residential sales revenues will be unreasonably understated in a 8 9 forecasted test year.

10 In contrast, the commercial comparison Mr. Michaelson provided as 11 Exhibit No. 5, Schedule No. 8 shows the predicted usage produced by his 12 analysis is comparable to actual usage for the past several years. Mr. 13 Michaelson also projects declining usage for commercial customers in the test 14 year in his Exhibit No. 5, Schedule No. 1 and a revenue reduction of \$920,000 to 15 this rate class in the test year. But the sales projections to this rate class have 16 not consistently understated actual sales and reflect a reasonable trend of annual 17 usage for the commercial customers.



1 VWID's projected declining use adjustment for residential customers is 2 unreasonable and should be adjusted. Mr. Michaelson's test year adjustment of 3 8.59 thousand gallons represents a 10% decrease in use per residential customer for the test year compared to actual use per customer over the past 4 five years, which includes the two lowest residential sales years in the 30-year 5 6 time period. While it is reasonable to assume that use per customer will decline 7 over time as customers install more water efficient appliances and become more 8 aware of conservation efforts, it is also reasonable to expect that this declining 9 use per customer trend will moderate going forward compared to the 30-year trend as the population of residential customers' water appliances and 10 conservation practices are updated to reflect more efficient water appliances and 11 12 customer consumption behavior. Mr. Michaelson's use of a declining use trend 13 based over a 30-year historical period does not allow for this rational expectation

of changing declining use trends over time. Again, as residential customers as a
 group modernize their water appliances and consumption patterns, the forward
 declining use trend will start to slow relative to the long-term past trend – an
 expectation borne out by recent actual data.

#### 5 Q WHAT DO YOU RECOMMEND?

A I recommend a residential declining use adjustment that is more in line with
actual usage patterns. Table 2, below, shows the most recent 15 years of
residential use per customer. As shown in the table, annual usage declined by
approximately 1.7% per year over the past 15 years. Applying my proposed
1.7% residential declining use adjustment results in a usage adjustment of 1.79
thousand gallons compared to the Company's 8.59 thousand gallons adjustment,
or a difference of 6.80 thousand gallons.

13 My proposed normalized residential sales in the test year for use per 14 residential customer is 103.686 thousand gallons compared to the Company's 15 96.88 thousand gallons. My projection is based on a 1.7% declining use trend 16 adjustment (or 1.79 thousand gallons per customer) based on a 15-year trend 17 and is more reasonable than the Company's declining use adjustment of 8.1% 18 (or 8.59 thousand gallons per customer) based on a 30-year trend. As shown in 19 Table 2 below, my estimate reflects a decrease in annual usage compared to the 20 last five years, but the decline in use is more moderate than the projection 21 proposed by the Company.

		ТА	BLE 2		
	<u>Resid</u>	<u>dential Consu</u> (Gallons p	mption - Last per Customer)	<u>15 Years</u>	
<u>Line</u>	<u>Year</u>	Actual <u>Usage</u> (1)	Difference From Prior <u>Year</u> (2)	Percent <u>Change</u> (3)	Veolia Predicted <u>Usage</u> (4)
1	2008	130,281	(8,949)	-6.4%	136,085
2	2009	123,172	(7,109)	-5.5%	127,306
3	2010	116,702	(6,471)	-5.3%	120,394
4	2011	114,864	(1,837)	-1.6%	118,224
5	2012	122,772	7,908	6.9%	126,245
6	2013	122,630	(142)	-0.1%	126,093
7	2014	119,242	(3,388)	-2.8%	120,089
8	2015	116,753	(2,489)	-2.1%	120,240
9	2016	115,214	(1,540)	-1.3%	115,194
10	2017	108,042	(7,171)	-6.2%	107,929
11	2018	111,257	3,215	3.0%	112,519
12	2019	103,460	(7,798)	-7.0%	97,838
13	2020	107,916	4,456	4.3%	102,832
14	2021	111,201	3,285	3.0%	103,487
15	2022 *	105,479	(5,722)	-5.1%	96,885
16	15 Year Avera	ige		-1.7%	
17	Estimated YE	03/23 Usage			103,686
18	Difference	-			6,801
	Source & Note: Exhibit No. 5, S *12 Months End	- chedule No. 5. ling June 2022			

A moderate declining use relative to the last five years is also reasonable in 1 recognition of weather impacts on sales over this five-year period. Mr. 2 3 Michaelson's regression analysis relies on the Palmer Z index which is a measure of short-term drought. The Palmer Z index for 2008 to 2022 is -0.27, 4 which is comparable to the 30-year average of -0.23.<sup>3</sup> Hence, the 15-year 5 average trend period contains both a variety of rainfall and other weather 6 7 conditions which impact year-over-year usage by the residential class, as well as more recent conservation impacted consumption behavior. 8

<sup>&</sup>lt;sup>3</sup> Michaelson Direct Testimony, Exhibit No. 5, Schedule No. 4E.

## 1QHOW DOES YOUR RESIDENTIAL SALES ADJUSTMENT IMPACT THE2COMPANY'S CLAIMED TEST YEAR REVENUE DEFICIENCY?

3 А This increases revenues and lowers the Company's claimed revenue deficiency 4 by approximately \$1.9 million, as shown below. My impact was calculated by 5 updating Mr. Michaelson's Exhibit No. 5, Schedule No. 4E with my revised usage 6 of 103.686 thousand gallons. Mr. Michaelson's 8.59 thousand gallons per 7 customer adjustment translates to 1.066 million CCF across the 92,800 8 residential customers while my adjustment translates to approximately 222,000 9 CCF across the same number of customers. This adjustment is shown in detail in Table 3 below. 10

		TA	BLE 3			
		Declining U	se Adjustment			
<u>Line</u>	Description	Usage (CCF) Prior To <u>Adjustments</u> (1)	Declining Use <u>Adi. (CCF)</u> (2)	Adjusted <u>Usaqe (CCF)</u> (3)	Proposed <u>Rates</u> (4)	Declining <u>Use Adi.</u> (5)
	Veolia Proposed					
1 2 3 4	VWID & New Eagle Water Customers Winter Usage - All CCF Summer Usage - Up to 3 CCF Summer Usage - Over 3 CCF Subtotal	5 4,298,207 491,850 <u>7,839,227</u> 12,629,283	(348,905) (39,916) (636,433) (1,025,254)	3,949,302 451,934 <u>7,202,793</u> 11,604,029	\$ 1.9797 \$ 1.9797 \$ 2.5063	\$ 7,818,619 894,714 <u>18,052,709</u> \$26,766,043
5 6 7 8	Existing Eagle Water Customers Winter Usage - All CCF Summer Usage - Up to 3 CCF Summer Usage - Over 3 CCF Subtotal	91,453 5,861 <u>45,752</u> 143,065	(13,975) (1,599) (25,491) (41,065)	77,478 4,262 20,260 102,000	\$ 1.1548 \$ 1.1548 \$ 1.4621	\$ 89,472 4,921 <u>29,622</u> \$ 124,016
9	Total	12,772,348	(1,066,319)	11,706,029		\$26,890,058
	Adjusted					
10 11 12 13	VWID & New Eagle Water Customers Winter Usage - All CCF Summer Usage - Up to 3 CCF Summer Usage - Over 3 CCF Subtotal	s 4,298,207 491,850 <u>7,839,227</u> 12,629,283	(72,795) (8,328) (132,785) (213,908)	4,225,411 483,522 7,706,442 12,415,375	\$ 1.9797 \$ 1.9797 \$ 2.5063	\$ 8,365,246 957,251 <u>19,315,028</u> \$ 28,637,525
14 15 16 17	Existing Eagle Water Customers Winter Usage - All CCF Summer Usage - Up to 3 CCF Summer Usage - Over 3 CCF Subtotal	91,453 5,861 <u>45,752</u> 143,065	(2,916) (334) (5,319) (8,568)	88,537 5,527 40,433 134,498	\$ 1.1548 \$ 1.1548 \$ 1.4621	\$ 102,243 6,383 <u>59,117</u> \$ 167,742 \$ 28,805,267
10		12,112,340	(222,470)	12,549,672		\$ 20,000,207
19	Difference	-	843,843	843,843		<b>\$ 1,915,209</b>
	Source: Michaelson Workpapers.					

1

#### **III. EMPLOYEE ADJUSTMENT**

2 Q DOES VWID'S TEST YEAR COST OF SERVICE INCLUDE LABOR

#### 3 EXPENSES ASSOCIATED WITH A BUDGETED LEVEL OF EMPLOYEES?

A Yes. VWID witness Jarmila M. Cary proposes several operation and
 maintenance ("O&M") expense adjustments including an adjustment to labor
 expenses to account for an increase of 15 positions due to the filling of vacant

FTE positions. VWID proposes to increase its total employee headcount from 122 filled full-time employee positions as of June 30, 2022 to 137 full-time employees (or filled plus vacancies). Ms. Cary lists the 15 positions in her direct testimony but does not describe why the positions are needed. As shown on her Exhibit No. 10, Schedule 1, page 1, the payroll associated with 137 positions is \$10.4 million, of which 66.17% is charged to expense.

#### 7 Q IS VWID'S BUDGETED TEST YEAR LABOR EXPENSE REASONABLE?

A No. VWID's budgeted test year labor expense includes labor costs associated
with vacant or unfilled positions and new hires. Unfilled employee positions are
not known and measurable costs and should not be included in the development
of the test year labor expense. The Company will not incur costs associated with
the additional positions unless and until those positions are actually filled.

#### 13 Q IS IT REASONABLE TO CONCLUDE THAT THE COMPANY CAN FILL ALL

#### 14 OF ITS BUDGETED EMPLOYEE POSITIONS IN THE FORECASTED TEST 15 YEAR?

A Filling the new budgeted positions will be challenging because it requires finding qualified employees to fill the new positions while at the same time the Company will need to fill existing positions as employees leave the Company via retirement or other reasons during the year. Employee attrition can offset increases in the Company's employee count as a result of hiring employees for new positions, leaving the number of vacant positions unchanged. The employee headcount chart on pdf page 9<sup>4</sup> of VWID witness Marshall Thompson's direct testimony
 shows that VWID's headcount can decrease year-over-year as well as increase.

#### 3 Q DID VWID PRESENT A PLAN TO FILL ALL BUDGETED POSITIONS IN THE

#### 4 FORECASTED TEST YEAR?

- 5 A No. Therefore, its ability to fill all budgeted positions is uncertain and the 6 additional cost is not known and measurable.
- 7 Q DID VWID PROVIDE EVIDENCE THAT IT NEEDS TO INCREASE ITS

#### 8 NUMBER OF EMPLOYEES IN ORDER TO PROVIDE HIGH QUALITY AND

#### 9 **RELIABLE SERVICE?**

- 10 A No. VWID only relies on comparisons to other utilities to justify its proposed
- 11 increase in labor expenses. Specifically, VWID's support for this adjustment is
- 12 limited to the following:

13 According to the American Water Works Association's 2021 Utility Benchmarking Study, the historic average for Customers per 14 15 Employee from that study' [sic] peer utility group was 438.4 during a 2006-2020 monitoring period. The graph below compares the 16 17 trend with Veolia Water Idaho metrics for the same period. Inclusive of customer growth, the company's 2022 customer per 18 employee ratio remains well outside of industry averages at 782 19 20 customers per employee.

- 21 \* \* \*
- Veolia's 2022 metric of 782 leaves considerable room for
  employee headcount growth before the company approaches the
  AWWA median of its industry peers.<sup>5</sup>
- 25 VWID's comparison to other utilities alone does not justify the Company's
- 26 proposal to include in cost of service the cost of unfilled/vacant positions. The

<sup>&</sup>lt;sup>4</sup> This page was incorrectly numbered as p. 2 in Mr. Thompson's testimony

<sup>&</sup>lt;sup>5</sup> Thompson Direct Testimony at pdf pp. 9-10, which were incorrectly numbered as pp. 2-3 in Mr. Thompson's testimony.

Company has not adequately demonstrated that it actually needs more
 employees. And, as described above, it is not known whether VWID will incur its
 full budgeted labor expense in the rate-effective period.

#### Q ARE YOU PROPOSING AN ADJUSTMENT TO VWID'S TEST YEAR LABOR EXPENSE?

- 6 А Yes. I recommend the Commission remove from cost of service the budgeted 7 expense associated with the 15 vacant positions. The Company has not proven 8 that it needs to increase its number of employees in order to provide high quality 9 and reliable service. VWID's increase in payroll expense is largely not known 10 and measurable and should be rejected. In addition, VWID is forecasting an 11 increase in overtime expense despite assuming it will have more employees in 12 the rate-effective period who could take work from employees currently working 13 overtime. For these reasons, I recommend the costs associated with the vacant 14 positions be removed from cost of service. This lowers VWID's claimed revenue 15 deficiency by approximately \$0.8 million.<sup>6</sup>
- 16

4

5

#### IV. RATE OF RETURN MARKET EVIDENCE

#### 17 Q PLEASE DESCRIBE THIS SECTION OF YOUR TESTIMONY.

18 A In this section, I will provide observable market evidence, credit metrics to assess 19 the reasonableness of rate of return positions, and a detailed analysis to 20 demonstrate that my recommended rate of return will support VWID's financial 21 integrity and access to capital. I also comment on market-based models to

<sup>&</sup>lt;sup>6</sup> \$10,382,008 regular payroll for 137 positions divided by 137 positions times the 15 vacant positions times the 66.17% applicable to O&M expense.

estimate the current market-required rate of return investors demand to assume
 the risk of an investment similar to VWID's.

#### 3 <u>IV.A. Utility Industry Authorized Returns on Equity, Access to</u> 4 <u>Capital, and Credit Strength</u>

### 5 Q PLEASE DESCRIBE THE OBSERVABLE EVIDENCE ON TRENDS IN 6 AUTHORIZED RETURNS ON EQUITY FOR REGULATED UTILITIES.

7 А Authorized returns on equity are an important part of how utilities produce 8 revenues and cash flows adequate to support their credit standing and maintain 9 their financial integrity, which supports their access to capital under reasonable 10 terms and prices. Observable data, including on industry authorized returns on 11 equity, trends and outlooks on credit standing, and the ability of utilities to attract 12 capital to fund large investments, provides clear evidence that industry 13 authorized returns on equity have been judged by market participants to be fair 14 and reasonable. With this as background, it is significant to observe that industry authorized returns on equity for electric and gas utilities have ranged from 9.29% 15 16 to 9.78% for the period from 2014 through the end of 2022 and, since 2020, authorized returns on equity have averaged below 9.50%. These returns are 17 18 summarized in Figure 2 below.



<sup>2</sup> Download from S&P Global Market Intelligence, December 21, 2022.

\* Electric Returns exclude Limited Issue Rider Decisions.

\* RRA excludes the 2017 Alaska ENSTAR decision from its Industry Average.

#### 1 Q HAVE UTILITIES BEEN ABLE TO ACCESS EXTERNAL CAPITAL TO

2 SUPPORT CAPITAL EXPENDITURE PROGRAMS?

- 3 A Yes. In Regulatory Research Associates' ("RRA") October 28, 2022 Utility
- 4 Capital Expenditures Update report, RRA Financial Focus, a division of S&P
- 5 Global Market Intelligence, made several relevant comments about utility
- 6 investments generally:
- 2022 capital expenditures by the Regulatory Research
  Associates-tracked energy utilities may eclipse their total
  investments in 2021 by more than 20%, with anticipated capex
  rising to more than \$158.6 billion, compared with actual
  spending in 2021 of \$131.8 billion.
- 2023 is anticipated to be another record year of increased investment, with the aggregated forecast for energy utility capex exceeding \$169 billion.
- The nation's electric, gas and water utilities are investing in infrastructure at record levels to upgrade aging transmission and distribution systems; build new gas, solar and wind generation; and implement new technologies, including those

- related to smart meter deployment, smart grid systems,
   cybersecurity measures, electric vehicles and battery storage.
   The considerable spending levels are expected to serve as the
   basis for solid profit expansion in the utility industry for the
   foreseeable future.
- 6 Several catalysts are anticipated to impel elevated spending 7 over the next several years, including replacement of aging 8 infrastructure, state renewable portfolio standards, and federal 9 infrastructure investment plans and tax credits incentivizing 10 conversion of the nation's power generation network to zero-The recently passed federal Inflation 11 carbon sources. 12 Reduction Act of 2022 is expected to play a substantial role 13 over the next decade.7
- 14 As shown in Figure 3 below, capital expenditures for the regulated utilities have
- 15 increased considerably over the period 2021 into 2022, and the forecasted
- 16 capital expenditures remain elevated through the end of 2023, with projected



17 spend in 2024 tapering off slightly from 2022 levels.

#### 18

As outlined in Figure 3 above, and in the comments made by RRA S&P

19

Global Market Intelligence, capital investments for the utility industry continue to

<sup>&</sup>lt;sup>7</sup> S&P Global Market Intelligence, RRA Financial Focus: "2023 energy, water utility capex plans on track to break prior spending records," October 28, 2022, (footnotes omitted).

1 stay at elevated levels, and these capital expenditures are expected to fuel 2 utilities' profit growth into the foreseeable future. This is clear evidence that the 3 capital investments are enhancing shareholder value and are attracting both 4 equity and debt capital to the utility industry in a manner that allows for funding 5 these elevated capital investments. While capital markets embrace these profit-6 driven capital investments, regulatory commissions also must be careful to maintain reasonable prices and tariff terms and conditions to protect customers' 7 8 need for reliable utility service at reasonable rates.

#### 9 Q HAVE WATER UTILITIES ALSO ENJOYED ACCESS TO EXTERNAL

#### 10 CAPITAL TO FUND SALES GROWTH?

- 11 A Yes. In its latest RRA Water Advisory report, Standard & Poor's ("S&P") outlined
- 12 the robust capital expenditure programs undertaken by the water utilities:
- 13The water utility sector has been accelerating its capital spending14budgets for decades. The group continues to outpace electric15and multi-utilities when comparing capex to depreciation and16amortization, and its spending rate is similar to the gas utility17level, which began to accelerate in the last decade.
- 18 19
- 20Total capex for the IOUs, tracked by RRA, are expected to21increase 7.3% in 2022, continuing a long-term trend of22accelerating investments. Total capex for RRA-monitored water23utilities have grown at a 10-year compound annual growth rate of2411.1% and are expected to increase 7.3% in 2022 versus 202125levels, to over \$3.9 billion. In 2021, capex growth averaged just264.8%.
- 28 RRA expects these water utilities to continue to invest at
  29 accelerated rates. Investment in existing service territories has
  30 been augmented by acquisitions and subsequent investment in
  31 those often under-invested systems. Increased regulation by the
  32 EPA could drive further expansion of water utility capital spending
  33 programs, and continued expansion of water utilities' operational

1footprints and capex programs are likely to support further2earnings growth.8

### 3 Q IS THERE EVIDENCE OF ROBUST VALUATIONS OF REGULATED UTILITY 4 EQUITY SECURITIES?

5 Α Yes. Robust valuations are an indication that utilities can sell securities at high 6 prices, which is a strong indication that they can access equity capital under 7 reasonable terms and conditions, and at relatively low cost. As shown on my 8 Exhibit No. 402, utility valuation metrics show robust valuation of utility securities 9 more recently compared to the historical period stretching back to 2002. Specifically, The Value Line Investment Survey ("Value Line") tracks and projects 10 11 various valuation metrics related to regulated utility securities, as well as non-12 regulated companies followed by Value Line. These valuation metrics are 13 considered by market participants in assessing the investment risk 14 characteristics of individual company stocks and industries and are used by 15 market participants to derive their required rates of return for making 16 investments. All of these valuation metrics for utility stocks indicate robust 17 valuations of utility stocks, which in turn support my finding that utilities' cost of 18 capital is low by historical comparison and utilities are producing competitive 19 returns.

For example, my Exhibit No. 402 shows a *Value Line* electric utility industry price-to-earnings ratio of 18.66x, compared to a 21-year average priceto-earnings ratio of around 17.17x (Page 1). The current price-to-earnings ratio for gas utilities is 17.28x, which is still higher than the price-to-earnings ratio relative to historical levels (Page 11). This strong price-to-earnings performance

<sup>&</sup>lt;sup>8</sup> S&P Global Market Intelligence RRA Water Advisory: "Intro to Water Utilities – Current Trends and Growth Driver," July 18, 2022, page 5.

indicates stock prices relative to earnings have been robust. Robust stock
 prices, or higher stock prices, indicate lower cost of capital.

The market price-to-cash flow for electric utilities is currently 8.97x, compared to the 21-year average of 7.53x (Page 2). The market price-to-cash flow for gas utilities is currently 9.87x, compared to the 17-year average of 9.61x (Page 11). Again, high stock prices in relationship to utility cash flows indicate investors are willing to accept lower rates of return to invest in utility stocks.

Finally, the current market-to-book ratio for the electric utility industry is 1.98x, compared to the 18-year average of 1.73x (Page 3). The current marketto-book ratio for the gas utility industry is 1.78x, which is comparable to the 17year average of 1.82x (Page 11). Again, the market-to-book ratio indicates robust stock prices and low cost of capital to utilities. The utility industry exhibits strong valuations in the marketplace, which is a clear indication that utilities have access to external capital markets under favorable conditions and at low costs.

#### 15 Q PLEASE DESCRIBE THE MARKET VALUATION OF WATER UTILITIES

#### 16 **STOCKS.**

- 17 A Similar to electric and gas utilities, the water utilities market performance has
- 18 been quite robust and supportive of access to capital markets. Specifically, S&P
- 19 states the following:

20 Despite the pullback, water utilities continue to trade at a 21 historical premium to the electric, natural gas and multi-utility 22 sectors. Water utilities currently trade at a 27.9x price-to-23 earnings, or P/E, multiple based on 2023 earnings estimates. As 24 of Dec. 31, 2021, that multiple had been 35.3x. In contrast, 25 electric utilities trade at a 2023 P/E multiple of 17.9x, natural gas 26 utilities at 18.0x and multi-utility companies at 19.1x.<sup>9</sup> 1 Similarly, Value Line notes:

The demand to own shares by the large institutional investors 2 clearly outstrips the supply. This is one of the prime reasons for 3 these stocks trading at such seemingly inflated P/E ratios. Of the 4 5 six water stocks covered by Value Line, the P/E's range from a 6 low of 24.8, to a high of 38.8, with the average being 32.4. 7 Essential Utilities is the only equity with a P/E below 30, mostly because of its gas utility operations.<sup>10</sup> 8 9 10 11 12 PLEASE DESCRIBE UTILITY STOCK PRICE PERFORMANCE OVER THE Q 13 LAST SEVERAL YEARS.

- 14 A Figure 4 below, shows the utility stock price performance compared to overall
- 15 market.



16 Utility stocks have not exhibited the higher volatility as the S&P 500 and have 17 maintained strong valuation relative to overall market performance. In fact, they 18 had a slightly higher stock price return than the S&P 500 (7.81% vs 7.08%, 19 respectively) in the last quarter of 2022.

<sup>&</sup>lt;sup>10</sup> Value Line Investment Survey, Water Utility Industry, January 6, 2023.

#### 1 Q HOW SHOULD THE COMMISSION USE THIS MARKET INFORMATION IN

#### 2 ASSESSING A FAIR RETURN FOR VWID?

Observable market evidence is quite clear that capital market costs are near 3 А 4 historically low levels. Even as authorized returns on equity have fallen into the 5 mid-9% range, utilities continue to have access to large amounts of external 6 capital while still funding large capital programs. Furthermore, utilities' 7 investment-grade credit ratings are stable and have improved due, in part, to 8 supportive regulatory treatment. The Commission should carefully weigh all this 9 important observable market evidence in assessing a fair return on equity for 10 VWID.

#### 11 IV.B. Federal Reserve's Impact on Cost of Capital

- 12QARE THE MONETARY POLICY DECISIONS AND ACTIONS OF THE13FEDERAL RESERVE, AND OF THE FEDERAL RESERVE SYSTEM'S ("FRS")14FEDERAL OPEN MARKET COMMITTEE ("FOMC"), KNOWN TO MARKET15PARTICIPANTS, AND IS IT REASONABLE TO BELIEVE THOSE DECISIONS16AND ACTIONS ARE REFLECTED IN THE MARKET'S VALUATION OF BOTH17DEBT AND EQUITY SECURITIES?
- A Yes. The Federal Reserve has been transparent on its efforts to support the
  economy to achieve maximum employment, and to manage long-term inflation to
  around a 2% level. The Federal Reserve, in a February 1, 2023 press release,
  noted that recent indicators point to modest growth in spending and production,
  while job gains have been robust and the unemployment rate has remained low.
  Meanwhile inflation has moderated but remains elevated. The Federal Reserve
  also noted that Russia's war against Ukraine is causing tremendous human and

economic hardship and is contributing to elevated global uncertainty. The
 Federal Reserve noted that it is highly attentive to inflation risk.<sup>11</sup>

With this as a backdrop, the Federal Reserve announced it raised the 3 4 target range of the Federal Funds Rate ("FFR") to 4.75%, and that it anticipates 5 ongoing increases to the FFR to achieve the target 2.0% inflation rate. The 6 Federal Reserve also stated that it will continue to reduce its holding of Treasury securities, agency debt securities and agency mortgage-backed securities, as 7 8 outlined in the Size of The Federal Reserve Balance Sheet statement issued in 9 May 2022. In that statement, the Federal Reserve outlined its intention to reduce the Federal Reserve's securities holdings over time in a predictable manner 10 11 primarily by gradually adjusting the amounts reinvested of principal payments 12 received from securities holdings without disrupting markets.<sup>12</sup> On February 1, 13 2023, the Federal Reserve reiterated its strong commitment to returning inflation to the 2% rate objective.<sup>13</sup> 14

The trend in the Federal Reserve's monetary actions on the Federal
Funds Rate is shown below in Figure 5.

<sup>&</sup>lt;sup>11</sup> Federal Reserve Press Release, February 1, 2023.

<sup>&</sup>lt;sup>12</sup> Federal Reserve Balance Sheet Developments, May 2022.

<sup>&</sup>lt;sup>13</sup> Federal Reserve Press Release, February 1, 2023.



1	As shown in Figure 5, the Federal Reserve's recent increase to the Federal
2	Funds Rate, currently at a 4.50% to 4.75% range, resulted in a higher Federal
3	Funds Rate than the rate prior to the economic effects of the worldwide
4	pandemic starting around March/April of 2020.

5

#### Q DO INDEPENDENT ECONOMISTS' OUTLOOKS FOR FUTURE INTEREST

#### 6 RATES ALIGN WITH THE FEDERAL RESERVE'S MONETARY POLICY?

A Yes. In its most recent report, *Blue Chip Financial Forecasts* ("*BCFF*") outlines
 consensus economists' projections that reflect a rising risk of inflation, and likely
 continued monetary tightening by the Federal Reserve to fight inflation. *BCFF* indicated the likelihood that the Federal Reserve would increase the Federal

1 Funds Rate in December but at a slower rate. Importantly, the BCFF expects the 2 FFR to reach its peak in the second quarter of 2023 and gradually decline after that."<sup>14</sup> In fact, the increase of the FFR in December was 25 basis points lower 3 4 than the last four increases of 75 basis points. As noted above, this trend was 5 also reflected in the most recent increase in February, an FFR hike of only 25 basis points. The BCFF also noted that there is a high probability of the 6 7 economy slowing down, possibly entering a recession, as illustrated by the 8 inverted yield curve. These outlooks and projections of short-term Federal Funds 9 Rate levels, long-term Treasury bond 30-year maturities, and of the U.S. 10 economic outlook more generally suggest inflation will impact interest rates over 11 the intermediate term but is expected to moderate over the long term. All of this 12 is illustrated in a comparison of interest rate and Gross Domestic Product 13 ("GDP") projections over time as developed in Table 4 below.

<sup>&</sup>lt;sup>14</sup> Blue Chip Financial Forecasts, January 1, 2023 at 2.

				ТА	BLE 4						
Projected	l Federa	I Funds	Blue Rate, 3	e Chip F 0-Year 1	inancial Freasury	Foreca / Bond `	sts Yields, a	and GDF	P Price I	ndex	
	30	40	10	20	30	40	10	20	30	40	10
Publication Date	2021	2021	2022	2022	2022	2022	2023	2023	2023	2023	2024
Federal Funds Rate											
Nov-21	0.1	0.1	0.1	0.1	0.1	0.3	0.4				
Dec-21	0.1	0.1	0.1	0.1	0.3	0.4	0.6				
Jan-22		0.1	0.1	0.3	0.5	0.7	0.9	1.1			
Feb-22		0.1	0.2	0.5	0.8	1.0	1.3	1.5			
Mar-22		0.1	0.2	0.6	1.0	1.3	1.6	1.8			
Apr-22			0.1	0.8	1.4	1.8	2.2	2.4	2.6		
May-22			0.1	1.0	1.7	2.2	2.6	2.9	3.0		
Jun-22			0.1	1.0	1.9	2.4	2.8	3.0	3.1		
Jul-22				0.7	2.4	3.1	3.5	3.5	3.5	3.4	
Aug-22				0.8	2.5	3.2	3.5	3.5	3.4	3.3	
Sep-22				0.8	2.5	3.4	3.6	3.6	3.5	3.4	
Oct-22					2.1	3.8	4.3	4.4	4.3	4.2	3.9
Nov-22					2.2	3.9	4.6	4.7	4.6	4.4	4.1
Dec-22					2.2	4.0	4.7	4.9	4.8	4.6	4.4
T-Bond, 30 vr											
Nov-21	1.9	2.2	2.3	2.4	2.5	2.6	2.7				
Dec-21	1.9	2.1	2.2	2.3	2.5	2.6	2.7				
Jan-22		2.0	2.1	2.2	2.4	2.5	2.7	2.8			
Feb-22		2.0	2.2	2.3	2.5	2.6	2.7	2.8			
Mar-22		2.0	2.2	2.5	2.6	2.7	2.9	3.0			
Apr-22			2.3	2.6	2.8	3.0	3.2	3.3	3.3		
May-22			2.3	2.9	3.1	3.2	3.4	3.5	3.5		
Jun-22			2.3	3.0	3.3	3.4	3.5	3.6	3.6		
Jul-22				3.0	3.5	3.6	3.7	3.8	3.8	3.8	
Aug-22				3.0	3.2	3.4	3.5	3.5	3.5	3.5	
Sep-22				3.0	3.1	3.4	3.5	3.6	3.6	3.6	
Oct-22					3.2	3.8	3.9	4.0	3.9	3.8	3.8
Nov-22					3.3	4.0	4.1	4.1	4.0	3.9	3.9
Dec-22					3.3	4.0	4.2	4.2	4.1	3.9	3.9
											-
Nov 24	<b>5</b> 7	S ∕I	07	26	9 F	<b>∩</b> ⁄	2.2				
	5.7 5.7	3.4 1 G	2.1	2.0 2.0	2.0	2.4 2 F	2.3 2 F				
Dec-21	5.9	4.0	3.4 27	∠.ŏ ว 1	2.1	2.5	2.5	9 E			
Jan-22		4.0 6.0	3.1 12	ן.נ סיו	2.0 2.0	∠.0 2.0	2.0 2.6	2.0 2.5			
reu-22 Mor 22		0.9 74	4.3 ∕/ 0	3.4 20	3.U 2 1	∠.0 2 0	2.0 2.6	2.0 2.5			
IVIAI-22		7.1	4.0 1 0	5.0 5 1	3.1 27	2.0	∠.0 2.0	2.0	26		
Api-22			4.0 ഉറ	5.1	3.7	3.U 2.1	2.0	∠.0 2 Q	2.0 2.6		
iviay=22			0.0 <b>2 1</b>	5.0	4.U 1 G	3.4 2 F	3.U 2.1	∠.0 2.0	∠.0 2.7		
Juli-22			0.1	5.9	4.0 ೯ ೧	3.0	3.I 2.1	∠.0 2 0	2.1	26	
Jui-22				ວ.ອ ຊອ	5.2 5.2	১.৬ ২০	ン.4 マク	∠.0 2.7	2.1	2.0 2.6	
Aug-22				0.7 2 0	0.3 ∡ 0	J.O ∕/ 1	3.3 2.2	2.1	2.1	2.0	
Oct 22				0.9	4.9	4.1	3.3 2 F	2.1	2.1	2.0	0 F
UCI-22					4.9 11	4.3 1 G	3.D 2.0	3.U 2 4	∠.ŏ	2.7	2.0
INUV-22					4.1	4.0 4.2	3.0 20	3.1 2.0	2.7	2.1	2.3
Dec-22					4.3	4.3	3.8	3.0	2.7	2.0	2.3
Source and Note: Blue Chip Financia Actual Yields in Bo	a <i>l Foreca</i> old.	as <i>ts,</i> Jar	nuary 20	21 throu	gh Dece	mber 20	)22.				

Further, the outlook for long-term interest rates in the intermediate to longer term is also impacted by the current Federal Reserve actions and the expectation that eventually the Federal Reserve's monetary actions will return to more normal levels. Long-term interest rate projections are illustrated in Table 5 below.

	ТА	BLE 5	
30-Year Treas	ury Bond Y	ield Actual V	s. Projection
Description	<u>Actual</u>	2-Year Projected*	5- to 10-Year <u>Projected</u>
2016			
Q1	2.72%	3.67%	
Q2	2.64%	3.50%	4.3% - 4.6%
Q3	2.28%	3.20%	
Q4	2.82%	3.20%	4.2% - 4.5%
<u>2017</u>			
Q1	3.04%	3.70%	
Q2	2.91%	3.73%	4.3% - 4.5%
Q3	2.82%	3.66%	
Q4	2.82%	3.60%	4.1% - 4.3%
<u>2018</u>			
Q1	3.02%	3.63%	
Q2	3.09%	3.80%	4.2% - 4.4%
Q3	3.07%	3.73%	
Q4	3.27%	3.67%	3.9% - 4.2%
<u>2019</u>			
Q1	3.01%	3.50%	
Q2	2.78%	3.17%	3.6% - 3.8%
Q3	2.30%	2.70%	
Q4	2.30%	2.50%	3.2% - 3.7%
<u>2020</u>			
Q1	1.88%	2.57%	
Q2	1.38%	1.90%	3.0% - 3.8%
Q3	1.36%	1.87%	
Q4	1.62%	1.97%	2.8% - 3.6%
<u>2021</u>			
Q1	2.07%	2.23%	
Q2	2.26%	2.77%	3.5% - 3.9%
Q3	1.93%	2.63%	
Q4	1.95%	2.70%	3.4% - 3.8%
2022			
Q1	2.25%	2.87%	
Q2	3.04%	3.47%	3.8% - 3.9%
Q3	3.26%	3.63%	
Source and Note		-	

Source and Note.

Blue Chip Financial Forecasts, January 2016 through September 2022.

\*Average of all 3 reports in Quarter.

1 As outlined in Table 5 above, the outlook for increases in interest rates 2 has jumped more recently relative to 2020 but is still relatively modest. Indeed, 3 today's relatively low capital market costs are expected to prevail at least in the 4 short-term, i.e., over the next five to ten years. While there may be some upward 5 movement in the cost of capital, that upward movement is not expected to be 6 significant. Importantly, the U.S. economy has largely recovered from the severe 7 effects of the COVID-19 pandemic experienced in 2020. Capital markets 8 continue to perform in a rational and economically logical manner at lower capital 9 costs for safe investment sectors such as the utility industry.

Moreover, while economists are projecting a modest increase in interest rates relative to those published in the past, these projections of increases in interest rates are, at best, uncertain. But more importantly, the projected increases are relatively modest compared to prior projections and demonstrate that VWID's proposal to increase its authorized return on equity in this case is simply not reflective of current or short-term forecast market capital costs.

#### 16 IV.C. Market Sentiments and Utility Industry Outlook

### 17QPLEASE DESCRIBE THE CREDIT RATING OUTLOOK FOR REGULATED18UTILITIES.

A The global economy has faced the extraordinary challenges of COVID-19, which
 led to nearly a complete shutdown of the global economy for a period of time.
 This unprecedented event impacted all sectors and capital markets. However,
 regulated utilities have generally performed well during the COVID-19 pandemic
 with consistent access to capital markets. More recently, the regulated utilities

- have faced higher inflation, natural gas prices and increasing recessionary
   pressure.
- 3 S&P currently has a negative outlook for the regulated utility industry, 4 because utility companies are operating with minimum financial cushion from 5 their downgrade thresholds and their exposure to environmental, social and
- 6 governance risk. Specifically, in a recent report, S&P states the following:
- 7 The industry outlook remains negative and has been negative 8 since early 2020. Over this timeframe downgrades have outpaced 9 upgrades by more than 3:1 (see chart 8). While the industry's 10 percentage of negative outlooks has decreased to about 15% 11 from 35% at year-end 2020, prolonged inflationary risks or a 12 deeper-than-expected recession could harm the industry's credit 13 quality in 2023.
- 14 \* \*

#### 15 MAIN ASSUMPTIONS ABOUT 2023 AND BEYOND

16 1. <u>Minimal financial cushion</u>

17 More than 40% of the industry is strategically managing their financial performance with only minimal financial cushion, 18 reflecting funds from operations (FFO) to debt that is less than 19 20 100 basis points above the downgrade threshold. Because utility cash flows are typically more stable than those of many other 21 22 industries, this strategy of limiting excess credit capacity works 23 well under ordinary conditions. However, when unexpected risks occur or base case assumptions deviate from expectations, the 24 utility's credit quality can weaken, as we've seen over the past 25 three years. 26

- 27 2. <u>Consistent access to the capital markets</u>
- 28 Because of the industry's high capital spending and consistent 29 dividends, negative discretionary cashflow is regularly more than 30 \$100 billion annually. To fund this large deficit, the industry 31 requires consistent access to the capital markets. Rising interest rates, decreasing equity prices, and inflation could hamper 32 33 consistent access to the capital markets, potentially pressuring 34 credit quality. Typically, most of the funding of negative 35 discretionary cashflow is from new debt issuance with the balance 36 from common equity, hybrid securities, and asset sales. For 2023, 37 we expect the industry will rely on a lower percentage of common

- 1 <u>equity</u> compared to prior years and instead rely on a higher 2 percentage of asset sales.
- 3 3. Energy transition
- 4 Over the past decade, the utility industry reduced its reliance on 5 coal-fired generation by more than 50% and more than doubled its 6 generation from renewable energy. We expect that by the end of 7 the decade it will reduce coal-fired generation by about another 8 50% and will fully phase out coal by about 2040.

#### 9 KEY RISKS OR OPPORTUNITIES AROUND THE BASELINE

10 1. Inflation reduction act (IRA)

11 While this legislation will benefit much of the industry, there are aspects of the law that will be detrimental to a few companies. 12 The key benefits are the expansion of tax credits and the 13 transferability of these credits. The legislation provides long-term 14 15 tax credits for renewables, batteries, nuclear power, and 16 hydrogen. We expect the use of these credits will significantly increase because of the relatively easy transferability of these tax 17 Conversely, the IRA also establishes an alternative 18 credits. 19 minimal tax, which we expect will increase taxes for large transmission and distribution holding companies, pressuring their 20 21 financial measures.

22 2. Recession

S&P Global's economists forecast the likelihood of a 2023
recession at greater than 50%. Should the recession be more
severe than expected, unemployment could rise faster than
expected, increasing the industry's uncollectibles and pressuring
its financial measures.

28 3. Affordability of customer bill

29 Customer bills may become less affordable because of rising commodity prices, interest rates, inflation, and capital spending. 30 31 During 2022, Henry Hub natural gas prices, the U.S. benchmark, peaked at about \$9 per mmBTU. Although prices have since 32 retreated to about \$4/mmBTU and the forward curve reflects 33 \$3.50-\$4.50/mmBTU, they remain substantially higher than 34 35 preinflation levels, pressuring the customer bill. While we estimate the industry's average electric bill represents only about 36 2.5% of after-tax household income, sharp increases and bill 37 38 volatility often results in increasing customer dissatisfaction that

1 2	can ultimately heighten regulatory scrutiny and constrain the industry's ability to effectively manage regulatory risk. <sup>15</sup>
3	More recently, Moody's Investors Service ("Moody's") changed the
4	industry outlook to "Negative." Specifically, Moody's states:
5 6 7 8 9 10 11 12	We have revised our outlook on the US regulated utilities sector to negative from stable. We changed the outlook because of increasingly challenging business and financial conditions stemming from higher natural gas prices, inflation and rising interest rates. These developments raise residential customer affordability issues, increasing the level of uncertainty with regard to the timely recovery of costs for fuel and purchased power, as well as for rate cases more broadly.
13	* * *
14 15 16 17 18 19 20 21 22 23 24	What could change our outlook: The outlook could return to stable if the sector's regulatory support remains intact, natural gas prices settle at a level where most utilities are able to fully recover fuel and purchased power costs without a delay beyond 12 months, overall inflation moderates, interest rates stabilize and/or the sector's aggregate (FFO)-to-debt ratio remains between 14% to 15%. We could change our outlook to positive if utility regulation turns broadly more credit supportive resulting in timelier cash flow recovery or we expect the sector's aggregate (FFO)-to-debt ratio to rise above 17% on a sustained basis. <sup>16</sup>
25	Fitch Ratings ("Fitch") states the following:
26 27	The sector outlook for North American Utilities, Power and Gas in 2022 is <u>neutral</u> , according to Fitch Ratings.
28 29 30 31	Approximately 81% of rated entities in the sector have Stable Rating Outlooks based on an expectation that retail electricity sales will continue to strengthen and the regulatory environment will remain supportive.
32 33 34 35 36	Key rating concerns include high natural gas prices, which will increase the fuel and purchased power costs for utilities and will be directly passed through to customers. Elevated capex, recovery of storm restoration costs and recovery of deferred coronavirus expenses will compound the pressure on customer

<sup>&</sup>lt;sup>15</sup> *S&P Global Ratings*: "Industry Top Trends: North America Regulated Utilities," January 23, 2023, at 4. (emphasis added).

<sup>&</sup>lt;sup>16</sup> *Moody's Investors Service Outlook*: "Regulated Electric and Gas Utilities – US; 2023 Outlook – Negative on higher natural gas prices, inflation and rising interest rates," November 10, 2022 at 1 (emphasis added).

bills. Declining O&M costs due to cost control initiatives and the ongoing energy transition to lower cost renewables should provide some offset.<sup>17</sup>

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4 As outlined above, S&P, Moody's and Fitch all are concerned about utilities' 5 ability to maintain rates which their customers can afford to pay and note that 6 cost recovery is increasingly becoming a concern to credit rating agencies. As 7 such, the Commission should carefully weigh the evidence in determining an 8 appropriate and fair overall rate of return for VWID in this case particularly, in 9 order to ensure that VWID's rates are managed in a manner to minimize cost 10 increases and maintain the most competitive rate structure possible for this utility. 11 Maintaining competitive rates will support the economic strength of VWID's 12 service territory, and make its rates more affordable for its customers, which in 13 turn will support stronger credit standing and financial integrity for VWID.

## 14 Q HOW DID YOU USE THIS OBSERVABLE MARKET DATA IN FORMING 15 YOUR RECOMMENDED RETURN ON EQUITY AND OVERALL RATE OF 16 RETURN FOR VWID?

17 А Generally, authorized returns on equity, credit standing, and access to capital 18 have been quite robust for utilities over the last several years. The COVID-19 19 pandemic has created challenges for the U.S. economy as a whole, including 20 utility companies. However, the U.S. economy has largely recovered and utilities 21 have mostly weathered the economic downturn caused by the pandemic. More 22 recently, regulated utilities are faced with higher inflation and increased interest 23 rates. Even so, the Federal Reserve has expressed its commitment, and taken 24 measures, to restore inflation to its target of 2.0%. In the meantime, it is critical

<sup>&</sup>lt;sup>17</sup> *Fitch Ratings*: "Neutral Outlook for North American Utilities, Power & Gas in 2022," December 9, 2021 at 1-2. (emphasis added).
1 that the Commission ensure that rates are increased no more than necessary to 2 provide fair compensation and maintain financial integrity and be especially 3 concerned about rate impacts on the service area economies that are severely 4 constrained due to current economic conditions.

#### IV.D. VWID'S Investment Risk 5

#### Q PLEASE DESCRIBE THE MARKET'S ASSESSMENT OF THE INVESTMENT 6 **RISK OF VWID.** 7

- 8 А VWID does not raise capital on its own and does not have its own credit rating. Rather, Veolia Utility Resources, LLC ("VUR") provides all the external capital 9 10 needed for VWID utility operations in the state of Idaho. Therefore, the market 11 assessment of VWID's investment risk is described by credit rating analysts' 12 reports for VUR. VUR is currently not rated by Moody's. However, its current corporate bond rating from S&P is A.<sup>18</sup> The Company's credit outlook from S&P 13 is "Stable." 14
- Specifically, S&P states: 15

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#### 16 **Rating Action Overview**

- Veolia Environment S.A. (Veolia) acquired Suez S.A., fully 18 integrating its North American operations, including Veolia Utility Resources LLC (VUR) (formerly Suez Water Resources LLC) and its immediate holding company. Veolia Utility Parent, Inc (formerly Suez Utility Holdings Inc).
- 22 • As part of this acquisition, Suez S.A. did not exercise any 23 drag-along rights to bring minority shareholder PGGM into the 24 sales process for Veolia Utility Parent, Inc. (VUPI). Furthermore, PGGM, the 20% minority shareholder of Veolia 25 26 Utility Parent, Inc., has maintained its ownership interest. We anticipate no changes to the insulating measures currently in 27 place for the foreseeable future. 28

<sup>&</sup>lt;sup>18</sup> Walker Direct Testimony at 28.

1 2	• As such, we affirmed the ratings, including the 'A' issuer credit rating on Veolia Utility Resources LLC. The outlook is stable.
3	• The stable outlook on VUR reflects our stable outlook on
4	Veolia as well as our view of VUR's low-risk, rate-regulated
5	water and wastewater utility operations. Furthermore, the
6	outlook reflects our expectation that the insulating measures
7	will remain in place for the foreseeable future and remain
8	adequate for us to rate VUR higher than Veolia. We also
9	expect that VUR will continue to reach constructive regulatory
10	outcomes and avoid any substantial rise in business risk. Our
11	base case forecast has VUR and VUPI maintaining adjusted
12	funds from operations (FFO) to debt of about 13%-15% over
13	the next few years. <sup>19</sup>

#### 14 IV.E. VWID's Proposed Capital Structure

#### 15 Q WHAT IS THE COMPANY'S PROPOSED CAPITAL STRUCTURE?

- 16 A VWID witness Mr. Walker also sponsors the Company's proposed capital
- 17 structure, which is shown below in Table 6.

TABL	E 6
VWID Pro <u>Capital St</u>	oposed ructure
Description	<u>Weight</u>
Debt Common Equity Total	44.4% <u>55.6%</u> 100.0%
Source: Walker Direct Testir	nony at 19.

<sup>&</sup>lt;sup>19</sup> Standard & Poor's RatingsDirect®: "Veolia Utility Resources LLC Ratings Affirmed After Acquisition By Veolia Environnement; Outlook Stable," May 5, 2022, at 1, emphasis added.

#### 1 IV.F. Embedded Cost of Debt

#### 2 Q WHAT IS VWID'S EMBEDDED COST OF LONG-TERM DEBT?

A VWID is proposing an embedded cost of long-term debt of 3.99% as developed
on the Company's Exhibit No. 6. I have used VWID's proposed embedded cost
of long-term debt in my calculation of an overall weighted cost of capital.

6

#### V. RETURN ON EQUITY

## 7 Q PLEASE DESCRIBE WHAT IS MEANT BY A "UTILITY'S COST OF COMMON 8 EQUITY."

9 A A utility's cost of common equity is the expected return that investors require on
10 an investment in the utility. Investors expect to earn their required return from
11 receiving dividends and through stock price appreciation.

## 12 Q PLEASE DESCRIBE THE FRAMEWORK FOR DETERMINING A REGULATED 13 UTILITY'S COST OF COMMON EQUITY.

14 А In general, determining a fair cost of common equity for a regulated utility has 15 been framed by two hallmark decisions of the U.S. Supreme Court: Bluefield 16 Water Works & Improvement Co. v. Pub. Serv. Comm'n of W. Va., 262 U.S. 679 17 (1923) and Fed. Power Comm'n v. Hope Natural Gas Co., 320 U.S. 591 (1944). 18 In these decisions, the Supreme Court found that just compensation depends on 19 many circumstances and must be determined by fair and enlightened judgments 20 based on relevant facts. The Court found that a utility is entitled to have the 21 opportunity to earn a return on its property devoted to the convenience of the 22 public that is generally consistent with the same returns available in other 23 investments of corresponding risk. The Court continued that the utility has no

- constitutional rights to profits such as those realized or anticipated in highly
   profitable enterprises or speculative ventures, and defined the ratepayer/investor
   balance as follows:
- 4 The return should be reasonably sufficient to assure confidence in 5 the <u>financial soundness</u> of the utility and should be adequate, 6 under <u>efficient and economical management</u>, to maintain and 7 <u>support its credit</u> and <u>enable it to raise the money</u> necessary for 8 the proper discharge of its public duties.<sup>20</sup>
- 9 As such, a fair rate of return is based on the expectation that the utility's 10 costs reflect efficient and economical management, and the return will support its 11 credit standing and access to capital, without being in excess of this level. From 12 these standards, rates to customers will be just and reasonable, and under 13 economic management, compensation to the utility will be fair and support 14 financial integrity and credit standing.

#### 15 V.A. Risk Proxy Group

#### 16 Q PLEASE DESCRIBE HOW YOU IDENTIFIED PROXY UTILITY GROUPS THAT

### 17 COULD BE USED TO ESTIMATE VWID'S CURRENT MARKET COST OF 18 EQUITY.

A I relied on the same water utility proxy group developed by VWID witness Mr.
Walker with the exception of York Water Company, which is no longer covered
by *Value Line*.

In addition, I also developed a gas utility proxy group comparable to VWID. My gas utility proxy group was developed by starting with the gas companies followed by *Value Line*. In developing my gas utility proxy group, I excluded South Jersey Industries ("SJI") because, in February 2022, SJI agreed to be acquired by an Infrastructure Investment Fund (JPMorgan Chase), which

<sup>20</sup> *Bluefield*, 262 U.S. 679, 693 (1923), emphasis added.

significantly increased its stock price. I also excluded Chesapeake Utilities
 Corporation because it is not rated by S&P or Moody's.

# 3 Q WHY DID YOU RELY ON GAS UTILITIES AS A PROXY GROUP IN 4 ESTIMATING VWID'S COST OF EQUITY?

5 А I relied on a gas utility proxy group along with the water utility proxy group to 6 better measure VWID's cost of equity. This was necessary for several reasons. 7 First, gas utilities' securities are more widely followed than are water utility 8 stocks, and therefore the estimated cost of equity from a gas utility proxy group 9 provides a more robust estimate of VWID's current market cost of equity. 10 Second, the asset capitalization and operations of water and gas utilities are very 11 similar. Both utility groups' operations are dependent on large main investment 12 and operations, infrastructure replacement and upgrades, and reliability and 13 safety compliance with state, local and federal regulations. The two groups 14 together produce a better investment risk proxy than only a water utility proxy 15 group.

For these reasons, I believe these two proxy groups are reasonable to
estimate the investment risk of VWID.

# 18 Q WHY IS IT APPROPRIATE TO EXCLUDE COMPANIES WHICH ARE 19 INVOLVED IN MERGER AND ACQUISITION ("M&A") ACTIVITY FROM THE 20 PROXY GROUPS?

A Companies that are involved in M&A or divestitures activities have market valuations that may not accurately reflect the stand-alone valuation of the company, but rather may anticipate enhanced valuation from the proposed M&A transaction. Therefore, removing them from the proxy group is necessary because the resulting market-based return analyses on these specific companies
 can be distorted and/or would simply be unreliable.

# 3 Q WHY IS IT APPROPRIATE TO EXCLUDE COMPANIES THAT DO NOT HAVE 4 A BOND RATING FROM S&P OR MOODY'S?

5 А Credit rating agencies undertake a detailed assessment of a company's business 6 and financial risk in awarding a bond rating. This bond rating is available to 7 public capital market participants and is considered an independent assessment 8 of the investment risk of the subject company. While a bond rating generally 9 assesses the credit strength of the company, it is useful in determining the predictability and strength of the company's cash flows to meet its financial 10 11 obligations including cash needed to meet common equity shareholders' 12 investment return outlooks. For these reasons, credit ratings from S&P and 13 Moody's are information that is available to the investment community to assess 14 the overall investment risk of the underlying company.

Because Chesapeake Utilities does not have a bond rating from S&P or Moody's, it is not possible to rely on independent market participants' assessment of its investment risk in comparison to VWID, or VUR. Therefore, I excluded this company from the proxy group.

#### 19 Q PLEASE DESCRIBE WHY YOU BELIEVE YOUR WATER PROXY GROUP IS

#### 20 **REASONABLY COMPARABLE IN INVESTMENT RISK TO VWID.**

A My water proxy group is shown in Exhibit No. 403. The water proxy group has
 an average credit rating from S&P of A, which is identical to VUR's S&P rating.<sup>21</sup>

<sup>&</sup>lt;sup>21</sup> Walker Direct Testimony at 28.

The water proxy group has an average Moody's credit rating of Baa1. However,
 VUR does not have a credit rating from Moody's.

The water proxy group has an average common equity ratio of 54.8% from S&P (including short-term debt) and a 48.4% equity ratio from *Value Line* (excluding short-term debt). VWID's proposed equity ratio of 55.6% is significantly higher than that of the water proxy group average of 48.4%.

#### 7 Q PLEASE DESCRIBE WHY YOU BELIEVE YOUR GAS PROXY GROUP IS

#### 8 **REASONABLY COMPARABLE IN INVESTMENT RISK TO VWID.**

- 9 A My gas proxy group is also shown in Exhibit No. 403. The gas proxy group has
  10 an average credit rating from S&P of A-, which is a notch lower than VUR's S&P
  11 rating of A. The gas proxy has an average Moody's credit rating of A3.
- My gas proxy group has an average common equity ratio of 38.0% from S&P (including short-term debt) and a 44.3% equity ratio from *Value Line* (excluding short-term debt). VWID's equity ratio of 55.6% is again significantly higher than that of the gas proxy group average of 44.3%.
- 16 Therefore, my proxy groups produce return on equity estimates that are 17 very conservative.
- 18 V.B. DCF Model

#### 19 Q PLEASE DESCRIBE THE DCF MODEL.

A The DCF model posits that a stock price is valued by summing the present value
 of expected future cash flows discounted at the investor's required rate of return
 or cost of capital. This model is expressed mathematically as follows:

23 
$$P_0 = \frac{D_1}{(1+K)^1} + \frac{D_2}{(1+K)^2} \dots \frac{D_{\infty}}{(1+K)^{\infty}}$$
 (Equation 1)  
24

1 2 3	$P_0$ = Current stock price D = Dividends in periods 1 - $\infty$ K = Investor's required return
4	This model can be rearranged in order to estimate the discount rate or
5	investor-required return, known as "K." If it is reasonable to assume that
6	earnings and dividends will grow at a constant rate, then Equation 1 can be
7	rearranged as follows:
8	$K = D_1/P_0 + G $ (Equation 2)
9 10 11 12	<ul> <li>K = Investor's required return</li> <li>D<sub>1</sub> = Dividend in first year</li> <li>P<sub>0</sub> = Current stock price</li> <li>G = Expected constant dividend growth rate</li> </ul>
13	Equation 2 is referred to as the annual "constant growth" DCF model.

### 14 Q PLEASE DESCRIBE THE INPUTS TO YOUR CONSTANT GROWTH DCF 15 MODEL.

A As shown in Equation 2 above, the DCF model requires a current stock price,
expected dividend, and expected growth rate in dividends.

#### 18 Q WHAT STOCK PRICE DID YOU USE IN YOUR CONSTANT GROWTH DCF

#### 19 **MODEL?**

A I relied on the average of the weekly high and low stock prices of the utilities in
 the proxy group over a 13-week period ending on January 20, 2023. An average
 stock price is less susceptible to market price variations than a price at a single
 point in time. Therefore, an average stock price is less susceptible to aberrant
 market price movements, which may not reflect the stock's long-term value.

A 13-week average stock price reflects a period that is still short enough to contain data that reasonably reflects current market expectations, but the period is not so short as to be susceptible to market price variations that may not
reflect the stock's long-term value. In my judgment, a 13-week average stock
price is a reasonable balance between the need to reflect current market
expectations and the need to capture sufficient data to smooth out aberrant
market movements.

### 6 Q WHAT DIVIDEND DID YOU USE IN YOUR CONSTANT GROWTH DCF 7 MODEL?

A I used the most recently paid quarterly dividend as reported in *Value Line.*<sup>22</sup> This
dividend was annualized (multiplied by 4) and adjusted for next year's growth to
produce the D<sub>1</sub> factor for use in Equation 2 above. In other words, I calculate D<sub>1</sub>
by multiplying the annualized dividend (D<sub>0</sub>) by (1+G).

#### 12 Q WHAT DIVIDEND GROWTH RATES DID YOU USE IN YOUR CONSTANT

#### 13 GROWTH DCF MODEL?

A There are several methods that can be used to estimate the expected growth in dividends. However, regardless of the method, to determine the market-required return on common equity, one must attempt to estimate investors' consensus about what the dividend, or earnings growth rate, will be and not what an individual investor or analyst may use to make individual investment decisions.

As predictors of future returns, securities analysts' growth estimates have been shown to be more accurate than growth rates derived from historical data.<sup>23</sup> That is, assuming the market generally makes rational investment decisions, analysts' growth projections are more likely to influence investors' decisions,

<sup>&</sup>lt;sup>22</sup> The Value Line Investment Survey, November 25, 2022 and January 25, 2023.

<sup>&</sup>lt;sup>23</sup> See, e.g., David Gordon, Myron Gordon & Lawrence Gould, "Choice Among Methods of Estimating Share Yield," *The Journal of Portfolio Management*, Spring 1989.

which are captured in observable stock prices, than growth rates derived only
 from historical data.

For my constant growth DCF analysis, I have relied on a consensus, or mean, of professional securities analysts' earnings growth estimates as a proxy for investor consensus dividend growth rate expectations. I used the average of analysts' growth rate estimates from three sources: Zacks, MI, and Yahoo! Finance. All such projections were available on January 20, 2023, and all were reported online.

9 Each consensus growth rate projection is based on a survey of securities 10 analysts. There is no clear evidence whether a particular analyst is most influential on general market investors. Therefore, a single analyst's projection 11 12 does not as reliably predict consensus investor outlooks as does a consensus of 13 market analysts' projections. The consensus estimate is a simple arithmetic 14 average, or mean, of surveyed analysts' earnings growth forecasts. A simple 15 average of the growth forecasts gives equal weight to all surveyed analysts' 16 Therefore, a simple average, or arithmetic mean, of analyst projections. 17 forecasts is a good proxy for market consensus expectations.

## 18 Q WHAT ARE THE GROWTH RATES YOU USED IN YOUR CONSTANT 19 GROWTH DCF MODEL?

A The growth rates I used in my DCF analysis are shown in Exhibit No. 404. The average growth rate for my water proxy group is 6.69%. The average growth rate for my gas proxy group is 5.73%.

#### 1 Q WHAT ARE THE RESULTS OF YOUR CONSTANT GROWTH DCF MODEL?

A As shown in Exhibit No. 405, the average and median constant growth DCF
returns for my water proxy group for the 13-week analysis are 8.62% and 9.49%,
respectively. The average and median constant growth DCF returns for my gas
proxy group for the 13-week analysis are 9.41% and 9.00%, respectively.

### 6 Q DO YOU HAVE ANY COMMENTS ON THE RESULTS OF YOUR CONSTANT 7 GROWTH DCF ANALYSIS?

A Yes. The constant growth DCF analysis for my water and gas proxy groups is
based on an average long-term sustainable growth rates of 6.69% and 5.73%,
respectively. The three- to five-year growth rate is higher than my estimate of a
maximum long-term sustainable growth rate of 4.00%.

# 12QHOW DID YOU ESTIMATE A MAXIMUM LONG-TERM SUSTAINABLE13GROWTH RATE?

14 А The long-term sustainable growth rate for a utility stock cannot exceed the 15 growth rate of the economy in which it sells its goods and services. The longterm maximum sustainable growth rate for a utility investment is, accordingly, 16 17 best proxied by the projected long-term GDP growth rate as that reflects the 18 projected long-term growth rate of the economy as a whole. While growth rates 19 on shorter periods can exceed the GDP growth rate, those short-term growth 20 periods are likely followed by other periods where the growth rate is below the 21 GDP. On average over long periods of time, the growth rate is most accurately 22 approximated by the long-term growth rate outlooks of the U.S. GDP.

Blue Chip Financial Forecasts projects that over the next 5 and 10 years,
 the U.S. nominal GDP will grow at an annual rate of approximately 4.0%. These

1 GDP growth projections reflect a real growth outlook of around 1.9% and an 2 inflation outlook of around 2.1% going forward. As such, the average nominal 3 growth rate over the next 5 to 10 years is around 4.0%, which I believe is a 4 reasonable proxy of long-term sustainable growth.<sup>24</sup>

### 5 Q IS THERE INDEPENDENT AUTHORITATIVE SUPPORT FOR USING LONG-

#### 6 TERM GDP GROWTH AS A MAXIMUM SUSTAINABLE GROWTH RATE?

Yes. In my multi-stage growth DCF analysis, I discuss academic and investment
 practitioner support for using the projected long-term GDP growth outlook as a
 maximum sustainable growth rate projection. Using the long-term GDP growth
 rate, however, as a conservative projection for the maximum sustainable growth
 rate is logical, and is generally consistent with academic and economic
 practitioner accepted practices.

#### 13 V.C. Sustainable Growth DCF

#### 14 Q PLEASE DESCRIBE HOW YOU ESTIMATED A SUSTAINABLE LONG-TERM

#### 15 **GROWTH RATE FOR YOUR SUSTAINABLE GROWTH DCF MODEL.**

16 A A sustainable growth rate is based on the percentage of the utility's earnings that 17 is retained and reinvested in utility plant and equipment. These reinvested 18 earnings increase the earnings base (rate base). Earnings grow when plant 19 funded by reinvested earnings is put into service, and the utility is allowed to earn 20 its authorized return on such additional rate base investment.

### The internal growth methodology is tied to the percentage of earnings retained by the utility and not paid out as dividends. The earnings retention ratio

<sup>&</sup>lt;sup>24</sup> Blue Chip Financial Forecasts, December 2, 2022, at 14.

is 1 minus the dividend payout ratio. As the payout ratio declines, the earnings
 retention ratio increases. An increased earnings retention ratio will fuel stronger
 growth because the business funds more investments with retained earnings.

The payout ratios of the proxy group are shown in my Exhibit No. 406. These dividend payout ratios and earnings retention ratios then can be used to develop a sustainable long-term earnings retention growth rate. A sustainable long-term earnings retention ratio will help gauge whether analysts' current threeto five-year growth rate projections can be sustained over an indefinite period of time.

10 The data used to estimate the long-term sustainable growth rate is based 11 on VWID's current market-to-book ratio and on *Value Line*'s three- to five-year 12 projections of earnings, dividends, earned returns on book equity, and stock 13 issuances.

As shown in Exhibit No. 407, the average sustainable growth rate using this internal growth rate model is 5.55% for my water proxy group and 5.41% for my gas proxy group.

### 17 Q WHAT IS THE DCF ESTIMATE USING THESE SUSTAINABLE LONG-TERM 18 GROWTH RATES?

A DCF estimate based on these sustainable growth rates is developed in Exhibit
No. 408. As shown there, the sustainable growth DCF analysis produces water
proxy group average and median DCF results for the 13-week period of 7.45%
and 7.50%, respectively. The average and median DCF results for my gas proxy
group are 9.08% and 9.30%, respectively.

#### 1 V.D. Multi-Stage Growth DCF Model

#### 2 Q HAVE YOU CONDUCTED ANY OTHER DCF STUDIES?

A Yes. My first constant growth DCF is based on consensus analysts' growth rate
projections so it is a reasonable reflection of rational investment expectations
over the next three to five years. The limitation on this constant growth DCF
model is that it cannot reflect a rational expectation that a period of high or low
short-term growth can be followed by a change in growth to a rate that better
reflects long-term sustainable growth. Therefore, I performed a multi-stage
growth DCF analysis to reflect this outlook of changing growth expectations.

#### 10 Q WHY DO YOU BELIEVE GROWTH RATES CAN CHANGE OVER TIME?

A Analyst-projected growth rates over the next three to five years will change as utility earnings growth outlooks change. Utility companies go through cycles in making investments in their systems. When utility companies are making large investments, their rate base grows rapidly, which in turn accelerates earnings growth. Once a major construction cycle is completed or levels off, growth in the utility rate base slows and its earnings growth slows from an abnormally high three- to five-year rate to a lower sustainable growth rate.

As major construction cycles extend over longer periods of time, even with an accelerated construction program, the growth rate of the utility will slow simply because the pace of rate base growth will slow and because the utility has limited human and capital resources available to expand its construction program. Therefore, the three- to five-year growth rate projection should only be used as a long-term sustainable growth rate in concert with a reasonable, informed judgment as to whether it considers the current market environment, the industry, and whether the three- to five-year growth outlook is actually
 sustainable.

#### 3 Q PLEASE DESCRIBE YOUR MULTI-STAGE GROWTH DCF MODEL.

A The multi-stage growth DCF model reflects the possibility of non-constant growth
for a company over time. The multi-stage growth DCF model reflects three
growth periods: (1) a short-term growth period consisting of the first five years;
(2) a transition period, consisting of the next five years (6 through 10); and (3) a
long-term growth period starting in year 11 through perpetuity.

9 For the short-term growth period, I relied on the consensus analysts' 10 growth projections I used above in my constant growth DCF model. For the 11 transition period, the growth rates were reduced or increased by an equal factor 12 reflecting the difference between the analysts' growth rates and the long-term 13 sustainable growth rate. For the long-term growth period, I assumed each 14 company's growth would converge to the maximum sustainable long-term growth 15 rate, which is the projected long-term GDP growth rate.

# 16QWHY IS THE GDP GROWTH PROJECTION A REASONABLE PROXY FOR17THE MAXIMUM SUSTAINABLE LONG-TERM GROWTH RATE?

A Utilities cannot indefinitely sustain a growth rate that exceeds the growth rate of the economy in which they sell services. Utilities' earnings/dividend growth are created by increased utility investment or rate base. Such investment, in turn, is driven by service area economic growth and demand for utility service. In other words, utilities invest in plant to meet sales demand growth. Sales growth, in turn, is tied to economic growth in their service areas. 1 The U.S. Department of Energy, Energy Information Administration 2 ("EIA") has observed utility sales growth tracks U.S. GDP growth, albeit at a 3 lower level, as shown in Exhibit No. 409. Utility sales growth has lagged behind 4 GDP growth for more than a decade. As a result, nominal GDP growth is a very 5 conservative proxy for utility sales growth, rate base growth, and earnings 6 growth. Therefore, the U.S. GDP nominal growth rate is a reasonable proxy for 7 the highest sustainable long-term growth rate of a utility.

#### 8 Q IS THERE RESEARCH THAT SUPPORTS YOUR POSITION THAT, OVER

9 THE LONG TERM, A COMPANY'S EARNINGS AND DIVIDENDS CANNOT

#### 10 **GROW AT A RATE GREATER THAN THE GROWTH OF THE U.S. GDP**?

- 11 A Yes. This concept is supported in published analyst literature and academic
- 12 work. Specifically, in "Fundamentals of Financial Management," a textbook
- 13 published by Eugene Brigham and Joel F. Houston, the authors state:
- 14The constant growth model is most appropriate for mature15companies with a stable history of growth and stable future16expectations. Expected growth rates vary somewhat among17companies, but dividends for mature firms are often expected to18grow in the future at about the same rate as nominal gross19domestic product (real GDP plus inflation).25
- 20 The use of the economic growth rate is also supported by investment
- 21 practitioners as outlined as follows:
- 22 Estimating Growth Rates

23 One of the advantages of a three-stage discounted cash flow 24 model is that it fits with life cycle theories in regards to company 25 growth. In these theories, companies are assumed to have a life 26 cycle with varying growth characteristics. Typically, the potential 27 for extraordinary growth in the near term eases over time and 28 eventually growth slows to a more stable level.

<sup>&</sup>lt;sup>25</sup> *"Fundamentals of Financial Management,"* Eugene F. Brigham & Joel F. Houston, Eleventh Edition 2007, Thomson South-Western, a Division of Thomson Corporation at 298, emphasis added.

1 2 Another approach to estimating long-term growth rates is to focus on estimating the overall economic growth rate. Again, this is the 3 approach used in the Ibbotson Cost of Capital Yearbook. 4 То obtain the economic growth rate, a forecast is made of the growth 5 6 rate's component parts. Expected growth can be broken into two 7 main parts: expected inflation and expected real growth. By 8 analyzing these components separately, it is easier to see the 9 factors that drive growth.<sup>26</sup>

\*

\* \*

10 ARE THERE ACTUAL INVESTMENT RESULTS THAT SUPPORT THE Q THEORY THAT THE GROWTH ON STOCK INVESTMENTS WILL NOT 11 12 EXCEED THE NOMINAL GROWTH OF THE U.S. GDP?

13 Α Yes. This is evident by a comparison of the compound annual growth of the U.S. 14 GDP to the geometric growth of the U.S. stock market. Kroll measures the 15 historical geometric growth of the U.S. stock market over the period 1926-2021 to 16 be approximately 6.4%.<sup>27</sup> During this same time period, the U.S. nominal 17 compound annual growth of the U.S. GDP was approximately 6.0%.<sup>28</sup>

18 As such, over the past 95 years, the geometric average annual growth of 19 the U.S. nominal GDP has been slightly lower than, but comparable to, the 20 average annual growth of the U.S. stock market capital appreciation. This 21 historical relationship indicates that the U.S. GDP growth outlook is a reasonable 22 estimate of the long-term sustainable growth of U.S. stock investments.

<sup>&</sup>lt;sup>26</sup> Morningstar, Inc., Ibbotson SBBI 2013 Valuation Yearbook at 51 and 52.

<sup>&</sup>lt;sup>27</sup> Kroll, 2022 SBBI Yearbook at 145.

<sup>&</sup>lt;sup>28</sup> U.S. Bureau of Economic Analysis, Table 1.1.5 Gross Domestic Product, Revised May 26, 2022.

# 1QWHAT IS THE GEOMETRIC AVERAGE AND WHY IS IT APPROPRIATE TO2USE THIS MEASURE TO COMPARE GDP GROWTH TO CAPITAL3APPRECIATION IN THE STOCK MARKET?

A The terms geometric average growth rate and compound annual growth rate are
used interchangeably. The geometric annual growth rate is the calculated
growth rate, or return, that measures the magnitude of growth from start to finish.
The geometric average is best, and most often, used as a measurement of
performance or growth over a long period of time.<sup>29</sup> Because I am comparing
achieved growth in the stock market to achieved growth in U.S. GDP over a long
period of time, the geometric average growth rate is most appropriate.

# 11 Q HOW DID YOU DETERMINE A LONG-TERM GROWTH RATE THAT 12 REFLECTS THE CURRENT CONSENSUS MARKET PARTICIPANT 13 OUTLOOK?

14 А I relied on the economic consensus of long-term GDP growth projections. Blue 15 Chip Financial Forecasts publishes the consensus for GDP growth projections 16 twice a year. These consensus GDP growth outlooks are the best available 17 measure of the market's assessment of long-term GDP growth because the 18 analysts' projections reflect all current outlooks for GDP. They are therefore 19 likely the most influential on investors' expectations of future growth outlooks. 20 The consensus projections published GDP growth rate outlook is 4.0% over the next 5 to 10 years.<sup>30</sup> 21

I propose to use the consensus for projected five-year average GDP
 growth rates of 4.0%, as published by *Blue Chip Financial Forecasts*, as an

<sup>&</sup>lt;sup>29</sup> New Regulatory Finance, Roger Morin, PhD, at 133-134.

<sup>&</sup>lt;sup>30</sup> Blue Chip Financial Forecasts, December 2, 2022, at p. 14.

estimate of long-term sustainable growth. *Blue Chip Financial Forecasts* projections provide real GDP growth projections of 1.9% and inflation of
 approximately 2.1% over the next 5 to 10-year (2024-2033) period, resulting in
 an average projected nominal annual GDP growth projection of 4.0%.<sup>31</sup> These
 GDP growth forecasts represent the most likely views of market participants
 because they are based on published economic consensus projections.

#### 7 Q DO YOU CONSIDER OTHER SOURCES OF PROJECTED LONG-TERM GDP

#### 8 GROWTH?

9 A Yes, and these alternative sources corroborate the consensus analysts'
10 projections I relied on. Various, commonly relied upon analysts' projections are
11 shown in Table 7 below.

orecasts ojected R eriod G 10 Yrs 1. 9 Yrs 2. 0 Yrs 1. 1 Yrs 2. 8 Yrs	eal <b>DP</b> Infla .9% 2.1 .2% 2.3 .6% 2.1 .1% 2.1	Nominal           ttion         GDP           1%         4.0%           3%         4.5%           1%         3.7%           1%         4.2%           4.1%
ojected eriodR G10 Yrs1.9 Yrs2.0 Yrs1.1 Yrs2.8 Yrs	Infla           Infla </th <th>Nominal GDP           1%         4.0%           3%         4.5%           1%         3.7%           1%         4.2%           4.1%</th>	Nominal GDP           1%         4.0%           3%         4.5%           1%         3.7%           1%         4.2%           4.1%
10 Yrs 1. 9 Yrs 2. 0 Yrs 1. 1 Yrs 2. 8 Yrs	.9% 2.1 .2% 2.3 .6% 2.1 .1% 2.1	1%       4.0%         3%       4.5%         1%       3.7%         1%       4.2%         4.1%
9 Yrs 2. 0 Yrs 1. 1 Yrs 2. 8 Yrs	.2% 2.3 .6% 2.1 .1% 2.1	3%       4.5%         1%       3.7%         1%       4.2%         4.1%
0 Yrs 1. 1 Yrs 2. 8 Yrs	.6% 2.1 .1% 2.1	1% 3.7% 1% 4.2% 4.1%
1 Yrs 2. 8 Yrs	.1% 2.1	1% 4.2% 4.1%
8 Yrs		4.1%
9 Yrs 1.	.8% 2.4	4% 4.3%
nber 2, 2022 n (EIA), 3, 2022. erm Budget ded June 29 OASDI Trus downloaded	2 at 14. Outlook, J 9, 2022. Stees Repo I on Decem	uly 2021. rt," nber 12, 2022.
J	ded June 29 OASDI Trus downloaded	ded June 29, 2022. OASDI Trustees Repo downloaded on Decem

3 in the range of 3.7% to 4.5%.

1

2

4	Therefore, the nominal GDP growth projections made by these
5	independent sources support my use of 4.0% as a reasonable estimate of market
6	participants' expectations for long-term GDP growth.

# 1QWHAT STOCK PRICE, DIVIDEND, AND GROWTH RATES DID YOU USE IN2YOUR MULTI-STAGE GROWTH DCF ANALYSIS?

3 А I relied on the same 13-week average stock prices and the most recent quarterly 4 dividend payment data discussed above. For stage one growth, I used the 5 consensus analysts' growth rate projections discussed above in my constant 6 growth DCF model. The first stage covers the first five years, consistent with the 7 time horizon of the securities analysts' growth rate projections. The second 8 stage, or transition stage, begins in year 6 and extends through year 10. The 9 second stage growth transitions the growth rate from the first stage to the third 10 stage using a straight linear trend. For the third stage, or long-term sustainable 11 growth stage, starting in year 11, I used a 4.00% long-term sustainable growth 12 rate based on the consensus economists' long-term projected nominal GDP 13 growth rate.

### 14 Q WHAT ARE THE RESULTS OF YOUR MULTI-STAGE GROWTH DCF 15 MODEL?

A As shown in Exhibit No. 410, the average and median DCF returns on equity for
my water proxy group using the 13-week average stock price are 6.23% and
6.31%, respectively. The average and median DCF returns on equity for my gas
proxy group are 8.03% and 8.08%, respectively.

#### 20 V.E. DCF Summary Results

#### 21 Q PLEASE SUMMARIZE THE RESULTS FROM YOUR DCF ANALYSES.

22 A The results from my DCF analyses are summarized in Table 8 below:

#### TABLE 8

#### Summary of DCF Results

Description	Water		Gas	
	Average	Median	Average	Median
Constant Growth DCF Model (Analysts' Growth)	8.62%	9.49%	9.41%	9.00%
Constant Growth DCF Model (Sustainable Growth) Multi-Stage Growth DCF Model	7.45% 6.23%	7.50% 6.31%	9.08% 8.03%	9.30% 8.08%

Based on the current market conditions, my DCF studies indicate a fair
 return on equity for VWID in the range of 8.60% to 9.50%, with an approximate
 midpoint of 9.00%.

#### 4 V.F. Risk Premium Model

#### 5 Q PLEASE DESCRIBE YOUR BOND YIELD PLUS RISK PREMIUM MODEL.

6 А This model is based on the principle that investors require a higher return to 7 assume greater risk. Common equity investments have greater risk than bonds 8 because bonds have more security of payment in bankruptcy proceedings than 9 common equity and the coupon payments on bonds represent contractual 10 In contrast, companies are not required to pay dividends or obligations. guarantee returns on common equity investments. Therefore, common equity 11 12 securities are considered to be riskier than bond securities.

This risk premium model is based on two estimates of an equity risk premium. First, I quantify the difference between regulatory commissionauthorized returns on common equity and contemporary U.S. Treasury bonds. The difference between the authorized return on common equity and the Treasury bond yield is the risk premium. I estimated the risk premium on an annual basis for each year from 1986 through September 2022. The authorized returns on equity were based on regulatory commission-authorized returns for
 utility companies. Authorized returns are typically based on expert witnesses'
 estimates of the investor-required return at the time of the proceeding.

4 The second equity risk premium estimate is based on the difference 5 between regulatory commission-authorized returns on common equity and 6 contemporary "A" rated utility bond yields by Moody's. I selected the period 1986 through September 2022 because public utility stocks consistently traded at a 7 8 premium to book value during that period. This is illustrated in Exhibit No. 411, 9 which shows the market-to-book ratio since 1986 for the utility industry was 10 consistently above a multiple of 1.0x. Over this period, an analyst can infer that 11 authorized returns on equity were sufficient to support market prices that at least 12 exceeded book value. This is an indication that commission authorized returns 13 on common equity supported a utility's ability to issue additional common stock 14 without diluting existing shares. It further demonstrates utilities were able to 15 access equity markets without a detrimental impact on current shareholders.

Based on this analysis, as shown in Exhibit No. 412, the average indicated gas equity risk premium over U.S. Treasury bond yields has been 5.64%. Since the risk premium can vary depending upon market conditions and changing investor risk perceptions, I believe using an estimated range of risk premiums provides the best method to measure the current return on common equity for a risk premium methodology.

l incorporated five-year and ten-year rolling average risk premiums over
 the study period to gauge the variability over time of risk premiums. These rolling
 average risk premiums mitigate the impact of anomalous market conditions and
 skewed risk premiums over an entire business cycle. As shown on my Exhibit
 No. 412, the five-year rolling average gas risk premium over Treasury bonds

ranged from 4.17% to 7.17%, with an average of 5.61%. The ten-year rolling
 average gas risk premium ranged from 4.30% to 6.92%, with an average of
 5.60%.

As shown on my Exhibit No. 413, the average indicated gas equity risk
premium over contemporary "A" rated Moody's utility bond yields was 4.28%.
The five-year rolling average gas risk premiums ranged from 2.80% to 5.97%,
with an average of 4.26%. The ten-year rolling average gas risk premiums
ranged from 3.11% to 5.75%, with an average of 4.23%.

9 Q DO YOU BELIEVE THAT THE TIME PERIOD USED TO DERIVE THESE
 10 EQUITY RISK PREMIUM ESTIMATES IS APPROPRIATE TO FORM
 11 ACCURATE CONCLUSIONS ABOUT CONTEMPORARY MARKET
 12 CONDITIONS?

13 А Yes. Contemporary market conditions can change during the period that rates 14 determined in this proceeding will be in effect. A relatively long period of time 15 where stock valuations reflect premiums to book value indicates that the 16 authorized returns on equity and the corresponding equity risk premiums were 17 supportive of investors' return expectations and provided utilities access to the 18 equity markets under reasonable terms and conditions. Further, this time period 19 is long enough to smooth abnormal market movement that might distort equity 20 risk premiums. While market conditions and risk premiums do vary over time, 21 this historical time period is a reasonable period to estimate contemporary risk 22 premiums.

Alternatively, some studies, such as Duff & Phelps, have recommended that the use of "actual achieved investment return data" in a risk premium study should be based on long historical time periods. The studies find that achieved returns over short time periods may not reflect investors' expected returns due to
unexpected and abnormal stock price performance. Short-term, abnormal actual
returns would be smoothed over time and the achieved actual investment returns
over long time periods would approximate investors' expected returns.
Therefore, it is reasonable to assume that averages of annual achieved returns
over long time periods will generally converge on the investors' expected returns.

My risk premium study is based on data that inherently relied on investor
expectations, not actual investment returns, and, thus, need not encompass a
very long historical time period.

## 10 Q WHAT DOES CURRENT OBSERVABLE MARKET DATA SUGGEST ABOUT 11 INVESTOR PERCEPTIONS OF UTILITY INVESTMENTS?

12 А The equity risk premium should reflect the relative market perception of risk 13 today in the utility industry. I have gauged investor perceptions in utility risk 14 today in Exhibit No. 414, where I show the yield spread between utility bonds and 15 Treasury bonds over the last 43 years. As shown in this attachment, the average 16 utility bond yield spreads over Treasury bonds for "A" and "Baa" rated utility 17 bonds for this historical period are 1.49% and 1.91%, respectively. The utility 18 bond yield spreads over Treasury bonds for "A" and "Baa" rated utilities in 2022 19 were 1.60% and 1.91%, respectively.

The current 13-week average "A" rated utility bond yield of 5.47% when compared to the current Treasury bond yield of 3.81%, as shown in Exhibit No. 415, implies a yield spread of 1.66%. This current utility bond yield spread is higher than the 43-year average spread for "A" rated utility bonds of 1.49%. The current spread for the "Baa" rated utility bond yield of 1.95% is slightly higher but comparable to the 43-year average spread of 1.91%.

### 1 Q IS THERE OBSERVABLE MARKET EVIDENCE TO HELP GAUGE MARKET 2 RISK PREMIUMS?

3 А Yes. Market data illustrates how the market is pricing investment risk and 4 gauging the current demands for returns based on securities of varying levels of 5 investment risk. This market evidence includes bond yield spreads for different bond return ratings as implied by the yield spreads for Treasury, corporate and 6 7 utility bonds. These spreads provide an indication of the market's return requirement for securities of different levels of investment risk and required risk 8 9 premiums.

Table 9 below summarizes the utility and corporate bond spreads relativeto Treasury bond yields.

TABLE 9				
Comparison of field Spreads Over Treasury Bond Fields				IEIUS
	Utility		Corporate	
Year	Α	Baa	Α	Baa
Average Historical Spread	1.49%	1.91%	0.84%	1.91%
2021 Spread	1.05%	1.30%	0.65%	1.34%
2022 Spread	1.60%	1.91%	0.96%	1.95%
Source: Moody's Bond Yields				

As outlined above, the observable market evidence indicates that risk premiums are reasonably aligned with long-term historical averages. As such, in comparison to recent utility bond yields and Treasury bond yields, I believe the most reasonable estimate of the current market cost of equity should reflect an average historical yield spread. 1 In terms of utility stock yields over utility bond yields, the risk premium 2 appears to be returning to more normal levels. As outlined on my Exhibit No. 3 402, page 4, stock yield spreads over A-rated utility bond yields have expanded 4 to around 1.0% from negative to very thin spreads extending back to 2016. The 5 same is true for utility stock yield spreads over Baa-rated utility bonds. 6 Observable stock yield spreads over utility bond yields indicate that risk 7 premiums in the marketplace today more reasonably align with normal risk 8 premiums that have been experienced over long historical periods.

#### 9 Q WHAT IS YOUR RECOMMENDED RETURN FOR VWID BASED ON YOUR

#### 10 **RISK PREMIUM STUDY?**

A I am recommending more weight be given to the high-end risk premium
 estimates than the low-end. As outlined above, I believe the current market is
 reflecting high premiums for investing in securities of greater levels of investment
 risk. Based on this observation, I propose to be conservative in applying a risk
 premium analysis. For these reasons, I will recommend my high-end equity risk
 premium in forming a return on equity in this proceeding.

For Treasury bond yields, I relied on the five-year rolling average historical risk premium of 5.61% in combination with the forecasted Treasury bond yield. Using a Treasury bond risk premium of 5.61% and a projected 30year Treasury bond yield of 3.80%<sup>32</sup> produces an indicated equity risk premium of 9.41% (5.61% + 3.80%).

A risk premium based on utility bond yields reflects current observable bond yields. Current observable bond yields may increase over time based on economists' projections of changes in interest rates. However, history indicates

<sup>&</sup>lt;sup>32</sup> Blue Chip Financial Forecasts, January 1, 2023 at 2.

1 that economists typically overestimate increases in interest rates. Therefore, 2 current observable rates should also be considered. With current observable rates, I recommend using the five-year rolling average risk premium estimate of 3 4 4.26%, which as shown on Exhibit No. 413 with an A utility yield of 5.47% as 5 shown on my Exhibit No. 415, page 1, produces a risk premium return on equity 6 of 9.73% (4.26% + 5.47%).

Based on this methodology, my Treasury bond risk premium and my 7 8 utility bond risk premium indicate a return in the range of 9.41% to 9.73%, with an 9 approximate midpoint of 9.60%.

#### V.G. Capital Asset Pricing Model ("CAPM") 10

#### 11 Q PLEASE DESCRIBE THE CAPM.

12 А The CAPM method of analysis is based upon the theory that the market-required 13 rate of return for a security is equal to the risk-free rate, plus a risk premium 14 associated with the specific security. This relationship between risk and return 15 can be expressed mathematically as follows:

- 16  $R_i = R_f + B_i x (R_m - R_f)$  where:
- 17  $R_i =$ Required return for stock i
- 18 R<sub>f</sub> = Risk-free rate
- 19 R<sub>m</sub> = Expected return for the market portfolio 20
  - Beta Measure of the risk for stock B<sub>i</sub> =

21 The stock-specific risk term in the above equation is beta. Beta 22 represents the investment risk that cannot be diversified away when the security 23 is held in a diversified portfolio. When stocks are held in a diversified portfolio, 24 stock-specific risks can be eliminated by balancing the portfolio with securities 25 that react in the opposite direction to firm-specific risk factors (e.g., business cycle, competition, product mix, and production limitations). 26

1 Risks that cannot be eliminated when held in a diversified portfolio are 2 non-diversifiable risks. Non-diversifiable risks are related to the market and 3 referred to as systematic risks. Risks that can be eliminated by diversification 4 are non-systematic risks. In a broad sense, systematic risks are market risks 5 and non-systematic risks are business risks. The CAPM theory suggests the 6 market will not compensate investors for assuming risks that can be diversified 7 away. Therefore, the only risk investors will be compensated for are systematic, or non-diversifiable, risks. The beta is a measure of the systematic, or 8 9 non-diversifiable risks.

#### 10 Q PLEASE DESCRIBE THE INPUTS TO YOUR CAPM.

A The CAPM requires an estimate of the market risk-free rate, VWID's beta, and
the market risk premium.

### 13 Q WHAT DID YOU USE AS AN ESTIMATE OF THE MARKET RISK-FREE 14 RATE?

A As previously noted, *Blue Chip Financial Forecasts*' projected 30-year Treasury
bond yield is 3.80%.<sup>33</sup> The current 30-year Treasury bond yield is 3.81% as
shown in Exhibit No. 415.

### 18 Q WHY DID YOU USE LONG-TERM TREASURY BOND YIELDS AS AN 19 ESTIMATE OF THE RISK-FREE RATE?

A Treasury securities are backed by the full faith and credit of the United States
 government. Therefore, long-term Treasury bonds are considered to have
 negligible credit risk. Also, long-term Treasury bonds have an investment

<sup>33</sup> Id.

horizon similar to that of common stock. As a result, investor-anticipated longrun inflation expectations are reflected in both common stock required returns
and long-term bond yields. Therefore, the nominal risk-free rate (or expected
inflation rate and real risk-free rate) included in a long-term bond yield is a
reasonable estimate of the nominal risk-free rate included in common stock
returns.

7 Treasury bond yields, however, do include risk premiums related to 8 unanticipated future inflation and interest rates. In this regard, a Treasury bond 9 yield is not a risk-free rate. Risk premiums related to unanticipated inflation and 10 interest rates reflect systematic market risks. Consequently, for companies with 11 betas less than 1.0, using the Treasury bond yield as a proxy for the risk-free rate 12 in the CAPM analysis can produce an overstated estimate of the CAPM return.

#### 13 Q WHAT BETA DID YOU USE IN YOUR ANALYSIS?

A As shown on my Exhibit No. 416, page 1, the average beta of my water and gas
proxy groups are 0.78 and 0.88, respectively.

16 I also reviewed the long-term trend of Value Line betas reported for the proxy group companies, and the Value Line water and gas industries. As shown 17 18 on Exhibit No. 416, page 2, the proxy group betas have generally ranged 19 between 0.65 and 0.75 prior to the elevated betas published after the COVID-19 20 pandemic commenced. The historical variability in the proxy group Value Line 21 betas is similar to the historical variability in the water and gas regulated utility 22 industry betas followed by Value Line. This is shown on Exhibit No. 416, page 3. 23 On this schedule, similar to the proxy group companies, I show the Value Line 24 water and gas industry historical beta estimates, which also indicate that the

current beta is abnormally high, and the long-term historical average beta of the
 proxy groups reasonably aligns with that of the entire industry.

The average normalized historical beta estimates are 0.72 and 0.77 for my water and gas proxy groups, respectively. Thus, the current beta estimates of 0.78 (water) and 0.88 (gas) are well above the normalized historical beta.

# Q HAVE YOU PERFORMED ANY STUDIES TO PROVE THAT PUBLISHED 7 VALUE LINE BETAS ARE ABNORMALLY HIGH AND DO NOT ACCURATELY 8 REFLECT INVESTMENT RISK OF VWID?

9 А Yes. Above I discuss beta variability based on published Value Line information. 10 However, using the S&P 500 utility index, relative to the New York Stock 11 Exchange, shows that beta estimates like those in Value Line are skewed due to 12 two extraordinary months within the 60-month time period used to measure beta. 13 The two months that skew the betas are March and April of 2020, the time period 14 that coincides with the start of the worldwide COVID-19 pandemic. Removing 15 these two months to derive a more normal level of beta has the effect of reducing 16 utility beta estimates from the very high levels right now of around 0.90, down to 17 more normalized betas in the range of 0.65 to 0.75. This beta regression study is 18 summarized in Table 10 below.

S&P 500 U <u>Regr</u> e	Jtilities vs. N ession Betas	(SE	
	Raw	Adjusted	
Period	<u>Beta</u>	<u>Beta</u>	<u>R</u> <sup>2</sup>
5Yr Ending Feb '20	0.45	0.65	0.18
May '20 - Current	0.66	0.79	0.39
Most Recent 5Yr Period	0.82	0.90	0.53
Note:			

1	Based on this analysis, I reject placing significant weight on Value Line
2	published betas and instead rely on more normalized historical betas to produce
3	a fair risk-adjusted return in this proceeding.

# 4 Q WHY IS IT NOT REASONABLE TO ESTIMATE A CAPM RETURN ON A 5 REGULATED UTILITY BASED ON BETA ESTIMATES THAT ARE CLEARLY 6 OUTLIERS FOR HISTORICAL AVERAGE BETAS?

7 А Utility company betas have increased from around 0.65 to 0.75 up to a current 8 level around 0.90 over the last two years. This increase in betas suggests that 9 utility companies' investment risks are increasing relative to the overall general 10 marketplace. However, the outlook of increasing utility investment risk is simply 11 not supported by a review of other risk measures for utilities including: (a) current 12 robust valuation metrics of utilities as described above; (b) risk spreads of utility 13 stock yields relative to bond yields; (c) sustained investment grade bond ratings 14 for utility companies, and (d) access to significant amount of capital. Again, as 15 shown on Exhibit No. 402, the historically strong valuation metrics of regulated 16 utilities are particularly robust, indicating the market is paying a premium for utility

stocks. The fact that utility stocks are trading at a premium is inconsistent with the notion that the market perceives the utility industry's investment risk to be increasing. It also shows that the market is not demanding a higher rate of return to invest in these securities. My conclusion is that the elevated betas for utility stocks were skewed by the temporary effects of the market events during the onset of the pandemic but the beta impacts have returned to more normal levels as the market recovered.

8 For these reasons, in performing my CAPM I used a more normalized 9 beta of 0.75 and market risk premium factors in order to derive a CAPM return 10 estimate in this proceeding.

#### 11 Q HOW DID YOU DERIVE YOUR MARKET RISK PREMIUM ESTIMATE?

12 A I derived two market risk premium estimates: a forward-looking estimate and one
13 based on a long-term historical average.

The forward-looking estimate was derived by estimating the expected return on the market (as represented by the S&P 500) and subtracting the riskfree rate from this estimate. I estimated the expected return on the S&P 500 by adding an expected inflation rate to the long-term historical arithmetic average real return on the market. The real return on the market represents the achieved return above the rate of inflation.

20 Kroll's *2022 SBBI Yearbook* estimates the historical arithmetic average 21 real market return over the period 1926 to 2021 to be 9.2%.<sup>34</sup> A current 22 consensus for projected inflation, as measured by the Consumer Price Index, is 23 2.3%.<sup>35</sup> Using these estimates, the expected market return is 11.71%.<sup>36</sup> The

<sup>&</sup>lt;sup>34</sup> Kroll, 2022 SBBI Yearbook at 146.

<sup>&</sup>lt;sup>35</sup> Blue Chip Financial Forecasts, January 1, 2023 at 2.

market risk premium then is the difference between the 11.71% expected market
 return and my 3.80% risk-free rate estimate, or 7.91%, which I referred to as a
 normalized market risk premium.

I also developed a current market risk premium based on the difference
between the expected return on the market of 11.71% as described above and
the current 30-year Treasury yield of 3.81% as shown on my Exhibit No. 415,
which produced a current market risk premium of approximately 7.90%.

A historical estimate of the market risk premium was also calculated by using data provided by Kroll in its *2022 SBBI Yearbook*. Over the period 1926 through 2021, the Kroll study estimated that the arithmetic average of the achieved total return on the S&P 500 was  $12.3\%^{37}$  and the total return on long-term Treasury bonds was  $6.0\%^{.38}$  The indicated market risk premium is 6.3% (12.3% - 6.0% = 6.3%).

14 The long-term government bond yield of 6.0% occurred during a period of 15 inflation of approximately 3.0%, thus implying a real return on long-term 16 government bonds of 3.0%.

# 17QHOW DOES YOUR ESTIMATED MARKET RISK PREMIUM RANGE18COMPARE TO THAT ESTIMATED BY KROLL?

A Kroll makes several estimates of a forward-looking market risk premium based
on actual achieved data from the historical period of 1926 through 2021 as well
as normalized data. Using this data, Kroll estimates a market risk premium
derived from the total return on the securities that comprise the S&P 500, less
the income return on Treasury bonds. The total return includes capital

 <sup>&</sup>lt;sup>36</sup> { (1 + 0.092) \* (1 + 0.023) - 1 } \* 100.
 <sup>37</sup> Kroll, *2022 SBBI Yearbook* at 145.
 <sup>38</sup> *Id*.

appreciation, dividend or coupon reinvestment returns, and annual yields
 received from coupons and/or dividend payments. The income return, in
 contrast, only reflects the income return received from dividend payments or
 coupon yields.

5 Kroll's range is based on several methodologies. First, Kroll estimates a 6 market risk premium of 7.46% based on the difference between the total market 7 return on common stocks (S&P 500) less the income return on 20-year Treasury 8 bond investments over the 1926-2021 period.<sup>39</sup>

9 Second, Kroll used the Ibbotson & Chen supply-side model which produced a market risk premium estimate of 6.22%.<sup>40</sup> Kroll explains that the 10 11 historical market risk premium based on the S&P 500 was influenced by an 12 abnormal expansion of P/E ratios relative to earnings and dividend growth during 13 the period, primarily over the last 30 years. Kroll believes this abnormal P/E 14 expansion is not sustainable. In order to control for the volatility of extraordinary 15 events and their impacts on P/E ratios, Kroll takes into consideration the three-16 year average P/E ratio as well as the current P/E ratio.<sup>41</sup>

17 Finally, Kroll develops its own recommended equity, or market risk 18 premium, by employing an analysis that takes into consideration a wide range of 19 economic information, multiple risk premium estimation methodologies, and the 20 current state of the economy by observing measures such as the level of stock 21 indices and corporate spreads as indicators of perceived risk. Based on this 22 methodology, and utilizing the higher of a "normalized" risk-free rate of 3.5%, 23 Kroll concludes the current expected, or forward-looking, market risk premium is 24 5.5%, implying an expected return on the market of 9.0%. However, when the

<sup>39</sup> *Id.* at 199.
<sup>40</sup> *Id.* at 207-208.

<sup>41</sup> *Id*.

current market risk-free rate exceeds the normalized risk-free rate, Kroll
 recommends applying the current 20-year Treasury yield of approximately 3.8%
 as of January 20, 2023. Currently, the 20-year Treasury yield is above the
 normalized risk-free rate. Hence, based on Kroll's methodology, the risk
 premium is 9.3%.<sup>42</sup>

6 Importantly, Kroll's market risk premiums are measured over a 20-year 7 Treasury bond. Because I am relying on a projected 30-year Treasury bond 8 yield, the results of my CAPM analysis should be considered conservative 9 estimates for the cost of equity.

#### 10 Q WHAT ARE THE RESULTS OF YOUR CAPM ANALYSIS?

11 A The current observable beta estimate for both my water and gas proxy groups is 12 approximately 0.83. However, recognizing beta estimates are currently skewed, 13 the normalized beta estimate for both my water and gas proxy groups is 14 reasonably estimated using the average historical beta estimate of approximately 15 0.75.

As shown on my Exhibit No. 417, using a current market risk-free rate of
3.81% and a projected market return of 11.71% produces a market risk premium
of 7.90%. When combined with the current beta of 0.83, this indicates a CAPM
return estimate of 10.36%.

Using a market return of 11.71%, with a projected risk-free rate of 3.80%,
produces a market risk premium of 7.91%. This market risk premium and riskfree rate with a normalized utility beta of 0.75, indicates a CAPM return of 9.71%.

<sup>&</sup>lt;sup>42</sup> Kroll, "Kroll Increases U.S. Normalized Risk-Free Rate from 3.0% to 3.5%, but Spot 20-Year U.S. Treasury Yield Preferred When Higher," June 16, 2022.
As discussed above, the current elevated betas do not reflect the low industry risk for VWID or the utility industry as a whole. Therefore, I find a more reasonable result using a CAPM study in this case would be to use a normalized utility beta, which produces a return on equity of approximately 9.70%.

## 5 V.H. Return on Equity Summary

# 6 Q BASED ON THE RESULTS OF YOUR RETURN ON COMMON EQUITY

## 7 ANALYSES DESCRIBED ABOVE, WHAT RETURN ON COMMON EQUITY DO

### 8 YOU RECOMMEND FOR VWID?

9 A Based on my analyses, I recommend VWID's current market cost of equity be in
10 the range of 9.00% to 9.70%, with a point estimate of 9.35%.

TABL	.E 11
Return on Common	Equity Summary
Description	<u>Results</u>
DCF	9.00%
Risk Premium	9.60%
CAPM	9.70%

1 My recommended return on common equity of 9.35% falls within my 2 range of 9.00% to 9.70%. The low-end of my range is based on my DCF 3 analyses, and the high-end is based on my CAPM studies. My risk premium 4 analysis falls in this range.

5 My return on equity estimates reflect observable market evidence, the 6 impact of Federal Reserve policies on current and expected long-term capital 7 market costs, an assessment of the current risk premium built into current market 8 securities, and a general assessment of the current investment risk 9 characteristics of the regulated utility industry and the market's demand for utility 10 securities.

11 V.I. Financial Integrity

### 12 Q WILL YOUR RECOMMENDED OVERALL RATE OF RETURN SUPPORT AN

13 INVESTMENT GRADE BOND RATING FOR VWID?

A Yes. I have reached this conclusion by comparing the key credit rating financial
 ratios for VWID at my proposed return on equity and VWID's recommended
 capital structure to S&P's benchmark financial ratios using S&P's new credit
 metric ranges.

# 1 Q PLEASE DESCRIBE THE MOST RECENT S&P FINANCIAL RATIO CREDIT 2 METRIC METHODOLOGY.

A S&P publishes a matrix of financial ratios corresponding to its assessment of the
 business risk of utility companies and related bond ratings. On May 27, 2009,
 S&P expanded its matrix criteria by including additional business and financial
 risk categories.<sup>43</sup>

Based on S&P's most recent credit matrix, the business risk profile
categories are "Excellent," "Strong," "Satisfactory," "Fair," "Weak," and
"Vulnerable." Most utilities have a business risk profile of "Excellent" or "Strong."

10 The financial risk profile categories are "Minimal," "Modest," 11 "Intermediate," "Significant," "Aggressive," and "Highly Leveraged." Most of the 12 utilities have a financial risk profile of "Aggressive." Based on the most recent 13 S&P report, VWID has an "Excellent" business risk profile and an "Intermediate" 14 financial risk profile and falls in the "Low Volatility" benchmark tables.

## 15 Q PLEASE DESCRIBE S&P'S USE OF THE FINANCIAL BENCHMARK RATIOS

### 16 IN ITS CREDIT RATING REVIEW.

A S&P evaluates a utility's credit rating based on an assessment of its financial and
business risks. A combination of financial and business risks equates to the
overall assessment of VWID's total credit risk exposure. On November 19, 2013,
S&P updated its methodology. In its update, S&P published a matrix of financial
ratios that defines the level of financial risk as a function of the level of business
risk.

<sup>&</sup>lt;sup>43</sup> S&P updated its 2008 credit metric guidelines in 2009, and incorporated utility metric benchmarks with the general corporate rating metrics. *Standard & Poor's RatingsDirect*: "Criteria Methodology: Business Risk/Financial Risk Matrix Expanded," May 27, 2009.

S&P publishes ranges for primary financial ratios that it uses as guidance
 in its credit review for utility companies. The two core financial ratio benchmarks
 it relies on in its credit rating process include: (1) Debt to Earnings Before
 Interest, Taxes, Depreciation and Amortization ("EBITDA"); and (2) Funds From
 Operations ("FFO") to Total Debt.<sup>44</sup>

## 6 Q HOW DID YOU APPLY S&P'S FINANCIAL RATIOS TO TEST THE 7 REASONABLENESS OF YOUR RATE OF RETURN RECOMMENDATIONS?

8 А I calculated each of S&P's financial ratios based on VWID's cost of service for its 9 regulated utility operations in its Idaho service territory. While S&P would normally look at total consolidated VWID financial ratios in its credit review 10 11 process, my investigation in this proceeding is not the same as S&P's. I am 12 attempting to judge the reasonableness of my proposed cost of capital for ratesetting in VWID's Idaho regulated utility operations. Hence, I am attempting to 13 14 determine whether my proposed rate of return will in turn support cash flow 15 metrics, balance sheet strength, and earnings that will support an investment 16 grade bond rating and VWID's financial integrity.

# 17QDIDYOUINCLUDEANYOFF-BALANCESHEET("OBS")DEBT18EQUIVALENTS?

A No. In response to Micron 2<sup>nd</sup> Data Request No. 39, VWID stated that it does not
 have any off-balance sheet debt equivalents. Therefore, I did not include any in
 the development of my credit metrics.

<sup>&</sup>lt;sup>44</sup> Standard & Poor's RatingsDirect. "Criteria: Corporate Methodology," November 19, 2013.

# 1QPLEASE DESCRIBE THE RESULTS OF THIS CREDIT METRIC ANALYSIS2AS IT RELATES TO VWID.

A The S&P financial metric calculations for VWID at a 9.35% return are developed
on Exhibit No. 418, page 1. The credit metrics produced below, with VWID's
financial risk profile from S&P of "Intermediate" and business risk profile of
"Excellent," will be used to assess the strength of the credit metrics based on
VWID's retail operations in the state of Idaho.

8 The adjusted debt ratio for credit metric purposes at the Company's 9 proposed capital structure is 44.4%, which is significantly lower than the adjusted 10 industry median debt ratio for A rated utilities in the range of 48.5% to 52.7%, as 11 shown on page 3 of Exhibit No. 418. A lower debt ratio indicates, all else equal, 12 less financial risk. VWID's financial risk is significantly lower than the industry 13 average.

Based on an equity return of 9.35% and the Company's proposed common equity ratio of 55.6%, VWID will be provided an opportunity to produce a Debt to Earnings Before Interest, Taxes, Depreciation and Amortization ("EBITDA") ratio of 3.5x. This is within S&P's "Intermediate" guideline range of 3.0x to 4.0x.<sup>45</sup>

19 VWID's retail utility operations FFO to total debt coverage at a 9.35%
20 equity return and 55.6% equity ratio is 20%, which is within S&P's "Intermediate"
21 metric guideline range of 13% to 23%. This ratio is again within the FFO/total
22 debt range that will support VWID's credit rating.

I conclude that VWID's core credit metrics ratios based on the Company's
 proposed capital structure and my return on equity will support its investment
 grade credit rating of A.

<sup>&</sup>lt;sup>45</sup> Standard & Poor's RatingsDirect<sup>®</sup>: "Criteria: Corporate Methodology," November 19, 2013.

# 1QDOES THIS FINANCIAL INTEGRITY ASSESSMENT SUPPORT YOUR2RECOMMENDED OVERALL RATE OF RETURN FOR VWID?

A Yes. As noted above, I believe my return on equity and the Company's proposed
capital structure represent fair compensation in today's very low capital market
costs, and as outlined above, my overall rate of return will provide VWID an
opportunity to earn credit metrics that will support its bond rating.

## 7 VI. RESPONSE TO VWID WITNESS MR. HAROLD WALKER

### 8 Q WHAT RETURN ON COMMON EQUITY IS VWID PROPOSING FOR THIS

### 9 **PROCEEDING**?

A VWID's proposed 10.80% return on equity is supported by its witness Mr. Walker.<sup>46</sup> His recommended return on equity is based on several market-based models such as DCF, CAPM and risk premium ("RP") applied to a group of publicly traded water utilities. Mr. Walker's results fall in in the range of 9.60% to 11.60% and are summarized in Table 12 below.

	Walker	Adjusted
Description	<u>Range</u> (1)	<u>Walker</u> (2)
DCF		
DCF	8.5%	8.5%
Risk Adj.	<u>1.1%</u>	<u>Reject</u>
Adjusted DCF	9.6%	8.5%
САРМ		
CAPM	9.0%	9.6%
Risk Adj.	2.6%	<u>Reject</u>
Adjusted CAPM	11.6%	9.6%
Risk Premium		
RP	10.2%	9.8%
Risk Adj.	<u>1.1%</u>	<u>Reject</u>
Adjusted RP	11.3%	9.8%
Recommended ROE	10.8%	9.35%

As illustrated above in Table 12 under Column 2, Mr. Walker's marketbased models without his adjustments would support my proposed return on equity of 9.35%. For reasons set forth below, Mr. Walker's proposed adjustments to his DCF, CAPM and RP results are unjust and unreasonable and should be rejected. Without these risk adjustments and correcting some of the inputs used in his studies, Mr. Walker's DCF, CAPM and RP results indicate a return on equity for VWID that supports my proposed return on equity of 9.35%.

### 1 VI.A. Leverage Risk Adjustment

### 2 Q HOW DID MR. WALKER DEVELOP HIS RISK ADJUSTMENT?

3 А Mr. Walker's risk adjustment is actually a market-to-book ratio or a leverage 4 adjustment that he applied to all of his return on equity model results. То 5 develop his adjustment, on his Exhibit No. 1, Schedule 16, Mr. Walker employs 6 the Hamada beta adjustment to modify the water group's original Value Line beta 7 of 0.77 up to a relevered beta of 1.10, producing a risk adjustment factor of 8 1.82x.<sup>47</sup> He produces his return on equity adjustments from the difference in the 9 equity ratio for the proxy group using the market value capitalization equity ratio 10 of 74.4%, compared to the book value equity ratio of 48.1%. His claim is that this 11 market-to-book ratio leverage difference requires a financial risk adder to the 12 model result when applied to a book value equity rate base.

Then, he averages the spread between the AAA and A rated bonds of approximately 0.45% with his Hamada risk adjustment of 1.8% (his actual estimate is 1.82% but Mr. Walker used 1.8%) to produce an adjustment of 1.10% to be applied to all of his return estimates.<sup>48</sup>

### 17 Q IS MR. WALKER'S LEVERAGE ADJUSTMENT REASONABLE?

18 A No. Again, investors do not distinguish the financial risk of an enterprise based 19 on the difference between its market value common equity ratio and its book 20 value common equity ratio. Rather, investors perceive the earnings strength of 21 the company based on its book value, and value the stock based on this same 22 stock value placed by the market on the company's earnings and dividends 23 outlook.

<sup>&</sup>lt;sup>47</sup> Walker Direct Testimony, Exhibit No. 1, Schedule 16.

<sup>&</sup>lt;sup>48</sup> Walker Direct Testimony at pdf pp. 49-50, which were incorrectly numbered as pp. 24-25 in Mr. Walker's testimony.

1 The stability and predictability of earnings and dividends are based on 2 book value financial risk characteristics, which are then valued by the market to 3 produce market prices and dividend yields.

4 Because Value Line beta estimates are estimated originally based on 5 differences in returns on market value securities, the leverage risk reflected in the 6 Value Line beta reflects the market risk of the stocks, which is not distinct and separate from the financial risk based on the Company's book value. More 7 8 specifically, the Company only has one measure of financial risk and it is the 9 same regardless of its market-to-book ratio. The Company does not have two different measures of financial risk – one on market value and a second on book 10 11 value.

12 Further, Mr. Walker's leverage adjustment as developed on his Exhibit 13 No. 1, Schedule 16, is really nothing more than a market-to-book ratio 14 adjustment, which produces a premium to the CAPM return estimate. A market-15 to-book ratio adjustment to either a DCF, CAPM or RP is severely flawed 16 because it provides the utility an ability to earn an above market rate of return on 17 incremental plant investments, which is in excess of the returns the utility can 18 earn in other enterprises of comparable risk, including buying back its own stock. 19 For these reasons, the beta leverage adjustment proposed by Mr. Walker is 20 flawed and produces a return on equity that is not balanced, reasonable or an 21 accurate measurement of a fair rate of return for VWID.

1QDOES MR. WALKER'S PROPOSED LEVERAGE ADJUSTMENT PRODUCE A2RATE OF RETURN THAT IS FAIR TO BOTH CUSTOMERS AND3INVESTORS?

A No. Under the *Hope* and *Bluefield* standard, the return on equity should produce
just and reasonable prices and provide investors an opportunity to earn the same
rate of return in utility plant investment as they can by investing in another
enterprise of comparable risk. This standard illustrates the imbalanced nature of
Mr. Walker's market-to-book ratio.

9 Specifically, if Mr. Walker's market-to-book ("M/B") ratio adjustment were 10 adopted, then VWID would be able to earn a much higher rate of return by 11 making incremental utility plant investments than it could by repurchasing its own 12 stock-these are comparable risk investments. For example, using Mr. Walker's 13 DCF results, VWID would be allowed to earn a return on equity of 9.60% (a 14 market return of 8.50% plus a M/B ratio return on equity adder of 1.10%) for 15 incremental plant investments. However, if it invested in its own stock, it would 16 expect to earn a market return of 8.50%, because the market return would not be 17 subject to the M/B return on equity adder.

As such, Mr. Walker's market-to-book ratio adjustment would provide VWID an opportunity for a well above market return on incremental plant investments, compared to alternative investments of comparable risk. Therefore, the market-to-book ratio adjustment fails to meet the fair compensation standard of *Hope* and *Bluefield*, and should be rejected.

# 1QDID MR. WALKER OFFER AN EXAMPLE OF WHY HE BELIEVES HIS2MARKET-TO-BOOK RATIO ADJUSTMENT IS REASONABLE?

3 А Yes. On Mr. Walker's Exhibit No. 1, Schedule 15, he shows three different 4 situations where a DCF return of 10% is applied to book value when the market-5 to-book ratio of the Company ranges from 50% to 100% to 200%. In each 6 scenario, applying a 10% return to the book value of \$50 will produce an equity return on book value of around \$5. With that \$5 return, Mr. Walker's illustration is 7 8 that the actual return to the shareholder will depend on the market-to-book ratio 9 of the Company. With a \$5 return on a book value of \$50, where the market-to-10 book ratio is 50%, Mr. Walker estimates that the \$5 earnings relative to a market 11 value of \$25 would produce a return on market value of around 20%. With a 12 market-to-book ratio of 1, the \$5 return on book value would also produce a 10% 13 return on market value. However, when the market-to-book ratio exceeds 1, in 14 this case up to 2, then a \$5 return on book value would only produce a 5% return 15 on market value. Using Mr. Walker's market-to-book ratio adjustment, the return 16 on book value would be set equal to the return necessary to achieve the 10% of 17 market value in each instance.

# 18QDOES MR. WALKER'S EXHIBIT NO. 1, SCHEDULE 15 SUPPORT HIS19MARKET-TO-BOOK RATIO ADJUSTMENT IN THIS CASE?

A No. What Mr. Walker fails to recognize is that customers are obligated to pay a fair rate of return on utility plant investment based on the company's cost of making that investment. Customers are not obligated to pay a rate of return to maintain a targeted market price of stock. Rather, customers are obligated to pay a fair rate of return that ensures that the utility has an economic incentive to continue to reinvest in utility plant and equipment. This is accomplished by providing the utility the same rate of return for incremental plant investments that the utility could earn by buying back its own stock or reinvesting in another enterprise of comparable investment risk. In this instance, the fair rate of return should be set at the return on the market, regardless of what the market-to-book ratio is, and Mr. Walker's market-to-book ratio return on equity adder should be rejected.

### 7 **VI.B. DCF**

### 8 Q PLEASE DESCRIBE MR. WALKER'S DCF ANALYSIS.

A As shown on his Exhibit No. 1, Schedule 12, Mr. Walker's constant growth DCF
return is based on an average growth rate of 6.6% from First Call, S&P, Zacks,
and *Value Line*, added to his water group's adjusted dividend yield of 1.9% as of
July 2022 to produce a return on equity of 8.5%. Next, Mr. Walker increases his
traditional DCF return estimate by 110 basis points to account for the difference
in market price and book value of his proxy group. His adjusted DCF estimates
produce a return on equity of 9.6%.<sup>49</sup>

16QIS MR. WALKER'S DCF RETURN ESTIMATE OF 9.6% A REASONABLE17ESTIMATE OF VWID'S DCF COST OF EQUITY?

A No. Mr. Walker's DCF return estimate is overstated for two main reasons. First,
 the 6.6% growth rate used in his constant growth DCF model is excessive and
 overstates the constant growth DCF return. Second, for the reasons I previously
 discussed, his proposed market-to-book adjustment is flawed and unreasonable,
 and significantly inflates the return on equity estimate for VWID.

<sup>&</sup>lt;sup>49</sup> Walker Direct Testimony at pdf p. 50, which was incorrectly numbered as p. 25 in Mr. Walker's testimony.

## 1 Q PLEASE EXPLAIN WHY MR. WALKER'S DCF GROWTH RATE OF 6.6% IS 2 EXCESSIVE.

A Mr. Walker's projected growth rate of 6.6% is based on the average growth rate from consensus analysts' estimates from First Call, S&P, and Zacks and single analysts' projections from *Value Line*. While a 6.6% growth rate may be appropriate for the water utility companies over the next three to five years, it is not an appropriate estimate of a long-term sustainable growth rate for these companies over an indefinite period of time.

9 As discussed in regard to my own DCF studies, it is not rational to expect 10 a utility company to have a growth rate higher than the growth of the economy in 11 which it sells its goods and services. Therefore, the long-term maximum 12 sustainable growth rate for a utility investment is best proxied by the projected 13 long-term GDP growth of 4.0%.

# 14QCAN MR. WALKER'S DCF MODEL BE MODIFIED TO PRODUCE A15REASONABLE RETURN ON EQUITY FOR VWID?

A Yes. Disregarding his risk adjustment of 1.10%, Mr. Walker's constant growth
DCF model produces a return of 8.5% as shown on his Exhibit No. 1, Schedule
12. Even though this DCF return is based on an excessive growth rate estimate,
to limit the issues in this regulatory proceeding, I consider Mr. Walker's DCF
return of 8.5% as a reasonable high end return estimate.

### 1 VI.C. CAPM

### 2 Q PLEASE DESCRIBE MR. WALKER'S CAPM ANALYSIS.

3 А Mr. Walker conducts a traditional CAPM analysis using a risk-free rate of 3.2%, a 4 beta estimate of 0.77, a historical risk premium of 7.5% and a prospective market 5 risk premium of 13.7%, which indicate a traditional CAPM return in the range of 9.00% (historical) to 13.75% (projected).<sup>50</sup> Then, Mr. Walker adds a small 6 company risk premium of 1.5 percentage points, which produces an adjusted 7 8 CAPM return estimate in the range of 10.5% to 15.2%. These CAPM return 9 estimates are developed on Mr. Walker's Exhibit No. 1, Schedule 17. To arrive 10 at his final CAPM return estimate, Mr. Walker relies only on his historical CAPM 11 result of 10.5%. He applies his M/B or leverage adjustment of 110 basis points to his historical CAPM return of 10.5% to produce a CAPM return of 11.6%.<sup>51</sup> 12

### 13 Q IS MR. WALKER'S CAPM RETURN ESTIMATE REASONABLE?

14 А No. There are many aspects of his CAPM analysis with which I disagree, 15 however, my primary issue with his CAPM study is his adders to his return 16 estimate for VWID. Specifically, his leverage and his small size adjustments 17 should be rejected. The deficiencies in Mr. Walker's leverage adjustment were already discussed in detail above. Mr. Walker has failed to show that either of 18 these adjustments is necessary to produce a fair and reasonable return for 19 20 VWID.

<sup>&</sup>lt;sup>50</sup> 3.2% + 0.77 x 7.5% = 9.0% and 3.2% + 0.77 x 13.7% = 13.75%

<sup>&</sup>lt;sup>51</sup> Walker Direct testimony at pdf p. 54, which was incorrectly numbered as p. 29 in Mr. Walker's testimony.

# 1QPLEASE DESCRIBE WHY MR. WALKER'S SMALL COMPANY RISK2PREMIUM ADJUSTMENT OF 1.50% IS UNREASONABLE.

3 А Mr. Walker derives his size premium estimate based on Kroll's 2022 SBBI 4 development of a size differentiated adjustment to the CAPM return estimate. 5 Kroll reviews the beta risk of companies based on different market 6 capitalizations. This adjustment, as shown on page 4 of Mr. Walker's Exhibit No. 1, Schedule 17, relied on a beta estimate for Mid-Cap companies of 1.13. This 7 8 beta estimate is significantly higher than the average beta estimate of 0.77 for 9 the water utility companies included in his analysis. Importantly, the Value Line 10 beta used by Mr. Walker and me has already been adjusted for the tendency of the beta estimate to move toward the market beta of 1.0.52 However, the beta 11 12 estimates used by Kroll are raw betas that have not been adjusted. Therefore, 13 Mr. Walker's methodology suffers from the use of inconsistent betas that distort the measurement of risk and CAPM return and renders his CAPM return 14 15 unreliable.

For example, adjusting the *Value Line* beta to be consistent with the Kroll beta would require reversing the Value Line beta adjustment. This would revise the average proxy group *Value Line* beta of 0.77, down to an unadjusted beta of 0.63.<sup>53</sup> This unadjusted beta would produce a lower CAPM to coincide with Mr. Walker's small capitalization adder.

Further, the unadjusted *Value Line* beta of 0.63 is much lower than Kroll's Mid-Cap Index beta of 1.13. His size adjustment is based on companies that have significantly more systematic risks that are not reflective of the utility industry or VWID. The size adjustments relied on by Mr. Walker reflect

<sup>&</sup>lt;sup>52</sup> Meir Statman, Betas Compared: Merrill Lynch vs. Value Line, The Journal of Portfolio Management Winter 1981, pages 41-44. <sup>53</sup> Raw Beta = (VL Beta - 0.35) / 0.67, Raw Beta = (0.77 - 0.35) / 0.67 = 0.63.

1 companies that have unadjusted beta estimates well in excess of 1.00. As shown on his schedule, every decile measured by Kroll has a much higher beta 2 3 than Mr. Walker's water group. The typical company in each decile is much 4 riskier than the typical utility company. This significant difference in the two betas 5 distorts the measurement of market risk and renders Mr. Walker's CAPM return 6 unreliable. Mr. Walker has not provided evidence that Kroll's Mid-Cap Index 7 presents risk comparable to regulated water companies generally or VWID 8 specifically and should be rejected.

### 9 Q HOW WOULD MR. WALKER'S CAPM RETURN ESTIMATE CHANGE IF

### 10 THESE INAPPROPRIATE RETURN ADD-ONS ARE ELIMINATED?

A Eliminating his leverage and small company adjustments and relying on Mr.
 Walker's risk premium of 7.5%, his beta estimate of 0.77, and an updated risk
 free rate of 3.8% as described in my own CAPM analysis would reduce his
 CAPM return from 11.6% to 9.6%.<sup>54</sup>

### 15 VI.D. Risk Premium

### 16 Q PLEASE DESCRIBE MR. WALKER'S RISK PREMIUM STUDY.

A As developed on his Exhibit No. 1, Schedule 18, Mr. Walker's risk premium
("RP") study is based on an estimated equity risk premium of 5.5% added to his
projected utility bond yield of 4.7%. This produced a risk premium estimate of
10.2%. Mr. Walker developed the equity risk premium of 5.5% based on the
public utility stock returns, less "A" rated public utility bond yields. He then

 $<sup>^{54}</sup>$  3.8% + 0.77 x 7.5% = 9.58%, rounded to 9.6%.

inflates the traditional risk premium estimate of 10.2% up to 11.3% to account for
 his leverage adjustment applied to all of his market-based models.<sup>55</sup>

### 3 Q DO YOU HAVE ANY ISSUES WITH MR. WALKER'S RP ANALYSIS?

4 A Yes. I have two major issues with Mr. Walker's RP analysis. First, his index
5 selection is not risk comparable to his water utility proxy group. Second, his
6 leverage adjustment to his RP return estimate should be rejected as discussed
7 above.

# 8 Q WHY IS MR. WALKER'S RISK PREMIUM ESTIMATE NOT APPROPRIATE 9 FOR VWID?

- 10 A Mr. Walker has not shown that the Public Utility Index is an appropriate risk proxy 11 for VWID. The Public Utility Index includes electric utility companies that are 12 much higher risk than low-risk water utility companies. Specifically, electric 13 utilities have commodity cost recovery risk for coal, purchased power energy 14 charges and natural gas expense. Given the volatile nature of commodity pricing 15 and procurement constraints, an electric utility has much greater operating risk 16 than that of a water utility.
- Therefore, because the Public Utility Index includes integrated utility
  companies, it is not an appropriate risk proxy for VWID. Hence, the equity risk
  premium estimated by Mr. Walker is not an appropriate estimate for VWID.

<sup>&</sup>lt;sup>55</sup> Walker Direct Testimony at pdf p. 60. This page is incorrectly numbered as p. 35 in Mr. Walker's testimony.

### 1 Q WHAT WOULD BE A REASONABLE RISK PREMIUM RETURN FOR VWID?

A Disregarding Mr. Walker's leverage adjustment and reflecting his "A" rated utility
bond yield of 4.7%, along with my market risk premium of approximately 4.3% as
described above in regard to my own RP analysis, would indicate a current return
on equity for VWID of 9.0%. Using a more updated 13-week average A-rated
utility yield of approximately 5.5% as discussed above will result in a risk
premium return of 9.8%.

8 VI.E. Additional Business Risks

# 9 Q DID MR. WALKER CONSIDER ADDITIONAL BUSINESS RISKS TO JUSTIFY 10 HIS RETURN ON EQUITY OF 10.8%?

11 A Yes. Mr. Walker believes that VWID is exposed to several additional risks that 12 should be accounted for such as: (1) the Company's small size; and (2) VWID's 13 planned capital expenditure.<sup>56</sup> Mr. Walker believes that these additional risks 14 should be considered in determining the return on equity for VWID.

15 Q WHY DO YOU BELIEVE THAT VWID FACES RISKS THAT ARE

# 16 COMPARABLE TO THE RISKS FACED BY MR. WALKER'S AND YOUR

### 17 **PROXY GROUP COMPANIES?**

A The major business risks identified by Mr. Walker are considered in the assigning
of a credit rating by the various credit rating agencies.

As shown on page 14 of Mr. Walker's testimony, the average S&P credit rating for his and my water proxy group is A, which is identical to VUR's credit rating from S&P. The relative risks discussed in Mr. Walker's testimony are

<sup>&</sup>lt;sup>56</sup> Walker Direct Testimony at pdf pp. 20-32, which were incorrectly numbered as pp. 20-7 in Mr. Walker's testimony.

already incorporated in the credit ratings of the proxy group companies. S&P
and other credit rating agencies go through great detail in assessing a utility's
business risk and financial risk in order to evaluate their assessment of its total
investment risk. This total investment risk assessment of VWID, in comparison
to a proxy group, is fully absorbed into the market's perception of the Company's
risk. The use of my proxy group fully captures the investment risk of VWID.

### 7 Q HOW DOES S&P ASSIGN CORPORATE CREDIT RATINGS FOR

8 **REGULATED UTILITIES?** 

- 9 A In assigning corporate credit ratings, the credit rating agency considers both
- 10 business and financial risks. Business risks, among others, include a company's
- 11 size, competitive position, generation portfolio, and capital expenditure programs,
- 12 as well as consideration of the regulatory environment, current state of the
- 13 industry, and the economy as whole. Specifically, S&P states:

14 To determine the assessment for a corporate issuer's business risk profile, the criteria combine our assessments of industry risk, 15 16 country risk, and competitive position. Cash flow/leverage 17 analysis determines a company's financial risk profile assessment. 18 The analysis then combines the corporate issuer's business risk profile assessment and its financial risk profile assessment to 19 In general, the analysis weighs the 20 determine its anchor. 21 business risk profile more heavily for investment-grade anchors, while the financial risk profile carries more weight for speculative-22 grade anchors.57 23

### 24 Q DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

25 A Yes, it does.

<sup>&</sup>lt;sup>57</sup> Standard & Poor's RatingsDirect: "Criteria/Corporates/General: Corporate Methodology," November 19, 2013.

## Appendix A - Qualifications of Michael P. Gorman

1	Q	PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.
2	А	Michael P. Gorman. My business address is 16690 Swingley Ridge Road, Suite 140,
3		Chesterfield, MO 63017.
4	Q	PLEASE STATE YOUR OCCUPATION.
5	А	I am a consultant in the field of public utility regulation and a Managing Principal with
6		the firm of Brubaker & Associates, Inc. ("BAI"), energy, economic and regulatory
7		consultants.
8	Q	PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND WORK
9		EXPERIENCE.
10	А	In 1983 I received a Bachelor of Science Degree in Electrical Engineering from
11		Southern Illinois University, and in 1986, I received a Master's Degree in Business
12		Administration with a concentration in Finance from the University of Illinois at
13		Springfield. I have also completed several graduate level economics courses.
14		In August of 1983, I accepted an analyst position with the Illinois Commerce
15		Commission ("ICC"). In this position, I performed a variety of analyses for both formal
16		and informal investigations before the ICC, including: marginal cost of energy, central
17		dispatch, avoided cost of energy, annual system production costs, and working
18		capital. In October of 1986, I was promoted to the position of Senior Analyst. In this
19		position, I assumed the additional responsibilities of technical leader on projects, and
20		my areas of responsibility were expanded to include utility financial modeling and
21		financial analyses.

In 1987, I was promoted to Director of the Financial Analysis Department. In
this position, I was responsible for all financial analyses conducted by the Staff.
Among other things, I conducted analyses and sponsored testimony before the ICC
on rate of return, financial integrity, financial modeling and related issues. I also
supervised the development of all Staff analyses and testimony on these same
issues. In addition, I supervised the Staff's review and recommendations to the
Commission concerning utility plans to issue debt and equity securities.

8 In August of 1989, I accepted a position with Merrill-Lynch as a financial 9 consultant. After receiving all required securities licenses, I worked with individual 10 investors and small businesses in evaluating and selecting investments suitable to 11 their requirements.

12 In September of 1990, I accepted a position with Drazen-Brubaker & 13 Associates, Inc. ("DBA"). In April 1995, the firm of Brubaker & Associates, Inc. was 14 formed. It includes most of the former DBA principals and Staff. Since 1990, I have 15 performed various analyses and sponsored testimony on cost of capital, cost/benefits 16 of utility mergers and acquisitions, utility reorganizations, level of operating expenses 17 and rate base, cost of service studies, and analyses relating to industrial jobs and 18 economic development. I also participated in a study used to revise the financial 19 policy for the municipal utility in Kansas City, Kansas.

At BAI, I also have extensive experience working with large energy users to distribute and critically evaluate responses to requests for proposals ("RFPs") for electric, steam, and gas energy supply from competitive energy suppliers. These analyses include the evaluation of gas supply and delivery charges, cogeneration and/or combined cycle unit feasibility studies, and the evaluation of third-party asset/supply management agreements. I have participated in rate cases on rate design and class cost of service for electric, natural gas, water and wastewater utilities. I have also analyzed commodity pricing indices and forward pricing methods
 for third party supply agreements, and have also conducted regional electric market
 price forecasts.

In addition to our main office in St. Louis, the firm also has branch offices in
Corpus Christi, Texas; Detroit, Michigan; Louisville, Kentucky and Phoenix, Arizona.

### 6 Q HAVE YOU EVER TESTIFIED BEFORE A REGULATORY BODY?

7 А Yes. I have sponsored testimony on cost of capital, revenue requirements, cost of 8 service and other issues before the Federal Energy Regulatory Commission and 9 numerous state regulatory commissions including: Alaska, Arkansas, Arizona, 10 California, Colorado, Delaware, the District of Columbia, Florida, Georgia, Idaho, 11 Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, 12 Michigan, Minnesota, Mississippi, Missouri, Montana, Nevada, New Hampshire, New 13 Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, 14 15 Washington, West Virginia, Wisconsin, Wyoming, and before the provincial regulatory 16 boards in Alberta, Nova Scotia, and Quebec, Canada. I have also sponsored 17 testimony before the Board of Public Utilities in Kansas City, Kansas; presented rate 18 setting position reports to the regulatory board of the municipal utility in Austin, Texas, 19 and Salt River Project, Arizona, on behalf of industrial customers; and negotiated rate 20 disputes for industrial customers of the Municipal Electric Authority of Georgia in the 21 LaGrange, Georgia district.

# 1QPLEASEDESCRIBEANYPROFESSIONALREGISTRATIONSOR2ORGANIZATIONS TO WHICH YOU BELONG.

A I earned the designation of Chartered Financial Analyst ("CFA") from the CFA
Institute. The CFA charter was awarded after successfully completing three
examinations which covered the subject areas of financial accounting, economics,
fixed income and equity valuation and professional and ethical conduct. I am a
member of the CFA Institute's Financial Analyst Society.

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1	<b>DECLARATION OF MICHAEL P. GORMAN</b>
2	I, Michael P. Gorman, declare under penalty of perjury under the laws of the state
3	of Idaho:
4	1. My name is Michael P. Gorman. I am employed by Brubaker &
5	Associates, Inc. ("BAI") as a Managing Principal and consultant in the field of
6	public utility regulation.
7	2. On behalf of Micron Technology, Inc., I present this pre-filed direct
8	testimony and Exhibit Nos. 401 through 418 in this matter.
9	3. To the best of my knowledge, my pre-filed direct testimony and
10	exhibits are true and accurate.
11	I hereby declare that the above statement is true to the best of my knowledge
12	and belief, and that I understand it is made for use as evidence before the Idaho
13	Public Utilities Commission and is subject to penalty for perjury.
14	SIGNED this 14th day of February 2023, at Chesterfield, Missouri.
15	Signed:
16 17	Michael Jarnem
18	20891148_v1

### **BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION**

)

)

IN THE MATTER OF THE APPLICATION OF VEOLIA WATER IDAHO INC. FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR WATER SERVICE IN ) THE STATE OF IDAHO

) CASE NO. VEO-W-22-02

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT NO. 401 TO ACCOMPANY THE

DIRECT TESTIMONY OF MICHAEL P. GORMAN

## Rate of Return (June 30, 2022)

<u>Line</u>	<u>Description</u>	<u>Amount</u> (1)	<u>Weight</u> (2)	<u>Cost</u> (3)	Weighted <u>Cost</u> (4)
1	Long-Term Debt	\$124,730,248	44.43%	3.99%	1.77%
2	Common Equity	<u>\$156,025,777</u>	<u>55.57%</u>	9.35%	<u>5.20%</u>
3	Total	\$ 280,756,025	100.00%		6.97%

Source: VWID Exhibit No. 1, Schedule 1 and Exhibit No. 6.

> Exhibit No. 401 Case No. VEO-W-22-02 Gorman, Micron Technology, Inc. Page 1 of 1

### **BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION**

)

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IN THE MATTER OF THE APPLICATION OF VEOLIA WATER IDAHO INC. FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR WATER SERVICE IN ) THE STATE OF IDAHO

) CASE NO. VEO-W-22-02

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT NO. 402 TO ACCOMPANY THE

DIRECT TESTIMONY OF MICHAEL P. GORMAN

### Electric Utilities (Valuation Metrics)

Price	o Earnings	(P/E) Ratio	

		21-Year																					
Line	e Company	Average	2022 <sup>2</sup>	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
1	ALLETE	18.08	15.70	16.70	18.28	24.75	22.17	23.05	18.63	15.06	17.23	18.59	15.88	14.66	15.98	16.08	13.95	14.78	16.55	17.91	25.21	N/A	N/A
2	Alliant Energy	16.81	22.10	21.90	21.23	21.16	19.14	20.60	22.30	18.07	16.60	15.28	14.50	14.45	12.47	13.86	13.43	15.08	16.82	12.59	14.00	12.69	19.93
3	Ameren Corp.	16.54	23.10	21.10	22.23	22.09	18.29	20.60	18.29	17.55	16.71	16.52	13.35	11.93	9.66	9.26	14.21	17.45	19.39	16.72	16.28	13.51	15.78
4	American Electric Power	14.92	21.00	17.90	19.57	21.41	18.04	19.33	15.16	15.77	15.88	14.49	13.77	11.92	13.42	10.03	13.06	16.27	12.91	13.70	12.42	10.66	12.68
5	Avangrid, Inc.	25.91	19.30	19.10	25.34	22.15	26.05	27.27	20.49	40.94	N/A												
6	Avista Corp.	18.52	17.90	22.30	21.18	14.98	24.54	23.37	18.80	17.60	17.28	14.64	19.30	14.08	12.74	11.42	14.97	30.88	15.39	19.45	24.43	13.84	19.27
7	Black Hills	17.90	15.80	20.00	17.00	21.18	16.82	19.48	22.29	16.14	19.03	18.24	17.13	31.13	18.10	9.93	N/A	15.02	15.77	17.27	17.13	15.95	12.52
8	CenterPoint Energy	16.63	23.30	26.60	15.92	19.45	36.99	17.91	21.91	18.10	16.96	18.75	14.85	14.58	13.78	11.81	11.27	15.00	10.27	19.06	17.84	6.05	5.59
9	CMS Energy Corp.	18.08	23.50	23.70	23.32	24.28	20.31	21.32	20.94	18.29	17.30	16.32	15.07	13.62	12.46	13.56	10.87	26.84	22.18	12.60	12.39	N/A	N/A
10	Consol. Edison	16.09	19.00	20.00	20.08	21.10	17.10	19.77	18.80	15.59	15.90	14.72	15.39	15.08	13.30	12.55	12.29	13.78	15.49	15.13	18.21	14.30	13.28
11	Dominion Resources	20.49	16.60	20.00	43.94	35.21	21.80	22.17	21.33	22.14	22.97	19.25	18.91	17.27	14.35	12.74	13.78	20.63	15.98	24.89	15.07	15.24	12.05
12	DTE Energy	15.90	28.10	19.60	16.30	19.88	17.41	18.59	18.97	18.11	14.91	17.92	14.89	13.51	12.27	10.41	14.81	18.27	17.43	13.80	16.04	13.69	11.28
13	Duke Energy	17.72	17.10	20.90	22.40	17.71	19.41	19.93	21.25	18.22	17.91	17.45	17.46	13.76	12.69	13.32	17.28	16.13	N/A	N/A	N/A	N/A	N/A
14	Edison Int'l	15.26	12.80	15.60	34.93	16.66	N/A	17.23	17.92	14.77	13.05	12.70	9.71	11.81	10.32	9.72	12.36	16.03	12.99	11.74	37.59	6.97	7.78
15	El Paso Electric	17.68	N/A	N/A	N/A	N/A	26.85	21.78	18.66	18.33	16.38	15.88	14.47	12.60	10.72	10.79	11.89	15.26	16.92	26.72	22.03	18.26	22.99
16	Entergy Corp.	13.81	18.10	15.40	15.26	16.50	13.81	15.01	10.92	12.53	12.89	13.21	11.22	9.06	11.57	11.98	16.56	19.30	14.28	16.28	15.09	13.77	11.53
17	Eversource Energy	18.38	18.10	21.30	24.33	22.11	18.73	19.47	18.69	18.11	17.92	16.94	19.86	15.35	13.42	11.96	13.66	18.75	27.07	19.76	20.77	13.35	16.07
18	Evergy, Inc.	21.02	19.40	17.90	21.71	21.76	22.71	N/A															
19	Exelon Corp.	15.11	17.20	20.70	15.39	15.75	20.09	13.41	18.68	12.58	16.02	13.43	19.08	11.30	10.97	11.49	17.97	18.22	16.53	15.37	12.99	11.77	10.46
20	FirstEnergy Corp.	18.25	15.10	17.90	20.24	23.78	26.47	11.41	15.91	17.02	39.79	13.06	21.10	22.39	11.75	13.02	15.64	15.59	14.23	16.07	14.13	22.47	12.95
21	Fortis Inc.	19.29	21.00	21.30	20.63	19.22	17.08	16.81	21.60	18.00	24.29	19.97	20.12	18.79	18.22	16.36	17.48	21.14	17.68	N/A	N/A	N/A	N/A
22	Great Plains Energy	15.52	N/A	N/A	N/A	N/A	N/A	NMF	17.98	19.37	16.47	14.19	15.53	16.11	12.10	16.03	20.55	16.35	18.30	13.96	12.59	12.23	11.09
23	Hawaiian Elec.	18.51	15.70	20.70	21.48	21.27	18.95	20.69	13.56	20.40	15.88	16.21	15.81	17.09	18.59	19.79	23.16	21.57	20.33	18.27	19.18	13.76	13.47
24	IDACORP, Inc.	17.05	19.20	23.50	19.88	22.31	20.50	20.60	19.06	16.22	14.67	13.45	12.41	11.54	11.83	10.20	13.93	18.19	15.07	16.70	15.49	26.51	18.88
25	NextEra Energy, Inc.	18.46	25.60	32.50	31.75	26.79	24.80	21.65	20.71	16.89	17.25	16.57	14.43	11.54	10.83	13.42	14.48	18.90	13.65	17.88	13.65	17.88	13.60
26	NorthWestern Corp	17.22	14.50	18.70	19.49	19.89	16.77	17.85	17.19	18.36	16.24	16.86	15.72	12.62	12.90	11.54	13.87	21.74	25.95	17.09	N/A	N/A	N/A
27	OGE Energy	15.26	18.60	15.20	16.25	19.00	16.53	18.32	17.68	17.69	18.27	17.69	15.16	14.37	13.31	10.83	12.41	13.75	13.68	14.95	14.13	11.84	14.12
28	Otter Tail Corp.	23.34	13.60	13.80	18.31	23.51	22.25	22.06	20.19	18.20	18.84	21.12	21.75	47.48	55.10	31.16	30.06	19.02	17.35	15.40	17.34	17.77	16.01
29	Pinnacle West Capital	16.12	15.10	19.90	16.71	19.37	17.82	19.28	18.74	16.04	15.89	15.27	14.35	14.60	12.57	13.74	16.07	14.93	13.69	19.24	15.80	13.96	14.43
30	PNM Resources	18.55	18.10	20.20	20.79	21.08	23.39	20.43	19.83	16.85	18.68	16.13	14.97	14.53	14.05	18.09	N/A	35.65	15.57	17.38	15.02	14.73	15.08
31	Portland General	17.52	14.40	19.60	26.57	22.31	18.42	20.03	19.06	17.71	15.32	16.88	13.98	12.37	12.00	14.40	16.30	11.94	23.35	N/A	N/A	N/A	N/A
32	PPL Corp.	14.44	18.50	21.60	13.94	13.29	11.33	17.65	12.83	13.92	14.08	12.84	10.88	10.52	11.93	25.69	17.64	17.26	14.10	15.12	12.51	10.59	11.06
33	Public Serv. Enterprise	14.67	16.40	31.30	14.91	15.10	18.71	16.31	15.35	12.41	12.61	13.50	12.79	10.40	10.37	10.04	13.65	16.54	17.81	16.74	14.26	10.58	10.00
34	SCANA Corp.	13.96	N/A	N/A	N/A	N/A	N/A	14.46	16.80	14.67	13.68	14.43	14.80	13.67	12.93	11.63	12.67	14.96	15.42	14.44	13.57	13.05	12.17
35	Sempra Energy	15.84	17.00	20.10	19.62	22.50	20.40	24.33	24.37	19.73	21.87	19.68	14.89	11.77	12.60	10.09	11.80	14.01	11.50	11.79	8.65	8.96	8.19
36	Southern Co.	16.10	19.50	20.60	17.91	17.58	15.06	15.48	17.76	15.85	16.04	16.19	16.97	15.85	14.90	13.52	16.13	15.95	16.19	15.92	14.68	14.83	14.63
37	Vectren Corp.	17.05	N/A	N/A	N/A	N/A	N/A	23.54	19.18	17.92	19.98	20.66	15.02	15.83	15.10	12.89	16.79	15.33	18.92	15.11	17.57	14.80	14.16
38	WEC Energy Group	17.21	23.90	21.30	24.89	23.49	19.57	20.01	19.95	21.33	17.71	16.50	15.76	14.25	14.01	13.35	14.77	16.47	15.97	14.46	17.51	12.43	10.46
39	Westar Energy	15.58	N/A	N/A	N/A	N/A	N/A	23.40	21.59	18.45	15.36	14.04	13.43	14.78	12.96	14.95	16.96	14.10	12.18	14.79	17.44	10.78	14.02
40	Xcel Energy Inc.	17.86	18.80	23.90	23.88	22.34	18.93	20.20	18.48	16.54	15.44	15.04	14.82	14.24	14.13	12.66	13.69	16.65	14.80	15.36	13.65	11.62	40.80
41	Average	17.17	18.66	20.65	21.30	20.88	20.21	19.60	18.77	17.73	17.45	16.17	15.51	15.28	14.22	13.53	15.29	17.83	16.53	16.39	16.61	13.71	14.26
42	Median	16.20	18.10	20.20	20.24	21.18	19.14	19.97	18.80	17.69	16.54	16.20	14.99	14.25	12.82	12.70	14.34	16.41	15.97	15.92	15.29	13.60	13.38

Sources:

<sup>1</sup> Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.

Data for the year 2020 was retrieved from Value Line Investment Surveys, March 12, April 23, and May 14, 2021.

Data for the year 2021 was retrieved from Value Line Investment Surveys, March 11, April 22, and May 13, 2022.

<sup>2</sup> The Value Line Investment Survey, September 9, October 21, and November 11, 2022.

Exhibit No. 402 Case No. VEO-W-22-02 Gorman, Micron Technology, Inc. Page 1 of 16

### Electric Utilities (Valuation Metrics)

Marl	ket Price to	Cash Flow	(MP/CF)	Ratio <sup>1</sup>

		21-Year																					
Line	Company	Average	2022 2/a	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
1	ALLETE	9.40	7.83	8.61	8.14	11.38	10.16	10.95	8.26	7.49	8.80	9.15	8.18	7.91	8.04	8.51	9.29	10.30	11.06	11.54	11.46	N/A	N/A
2	Alliant Energy	8.08	10.87	10.31	10.66	10.74	9.71	13.21	10.67	8.86	8.40	7.52	7.50	7.21	6.59	6.23	7.49	7.92	8.00	5.09	5.52	4.76	5.20
3	Ameren Corp.	7.27	9.46	9.03	9.63	9.45	7.95	8.38	7.44	6.87	6.95	6.61	5.48	5.02	4.23	4.25	6.35	7.69	8.57	8.57	8.24	6.74	7.96
4	American Electric Power	6.58	8.25	7.57	8.41	9.34	8.03	8.81	7.57	7.09	7.00	6.57	5.93	5.46	5.54	4.71	5.71	6.84	5.54	6.07	5.50	4.69	5.19
5	Avangrid, Inc.	9.99	8.75	11.19	9.39	9.11	10.24	10.14	8.56	11.30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	6.86	7.85	8.03	7.80	7.34	10.14	9.35	7.63	6.76	7.30	6.21	6.88	6.40	5.80	4.06	5.12	7.58	5.30	6.58	7.58	5.36	5.90
7	Black Hills	7.87	9.19	8.84	8.56	10.65	8.83	9.20	9.33	8.06	8.81	8.03	6.04	7.85	6.16	4.25	11.26	7.62	6.92	7.57	6.69	6.89	5.92
8	CenterPoint Energy	5.34	8.08	7.95	5.94	7.03	8.45	6.97	5.96	5.75	6.25	6.56	5.15	5.39	4.70	4.05	4.29	5.17	3.94	4.70	4.26	2.08	2.16
9	CMS Energy Corp.	6.27	9.59	9.27	9.87	9.85	8.40	8.75	8.50	7.53	7.13	6.68	6.03	5.41	4.48	3.64	3.45	5.57	4.40	4.04	3.20	2.88	NMF
10	Consol. Edison	8.22	8.55	7.26	8.35	9.46	8.73	9.64	9.39	7.96	7.89	7.77	8.31	8.15	7.39	6.72	6.89	8.31	8.65	8.59	9.31	7.90	7.64
11	Dominion Resources	9.95	9.77	11.15	14.59	13.47	10.94	11.35	11.59	11.84	12.27	10.88	9.92	9.45	8.12	6.98	8.27	8.65	7.81	10.09	7.68	7.51	6.53
12	DTE Energy	6.68	10.04	10.62	7.85	9.67	8.54	9.05	8.64	8.52	6.42	6.65	5.91	5.18	4.69	3.59	4.90	5.73	5.21	5.54	6.00	5.62	5.20
13	Duke Energy	7.63	7.55	7.89	8.06	7.40	7.65	8.40	8.57	7.95	8.12	8.11	9.53	6.56	6.01	5.96	7.13	7.16	N/A	N/A	N/A	N/A	N/A
14	Edison Int'l	5.99	5.88	7.14	7.57	7.25	13.46	7.05	6.77	5.92	5.68	5.46	4.59	4.22	4.11	3.95	5.63	7.01	5.87	5.61	6.84	2.82	2.96
15	El Paso Electric	5.93	N/A	N/A	N/A	N/A	9.43	8.54	7.46	6.47	6.33	6.19	5.78	5.16	4.31	3.98	4.95	6.44	6.25	6.67	4.65	3.90	4.39
16	Entergy Corp.	5.72	6.39	5.61	5.78	6.05	4.92	4.66	4.01	4.11	4.21	4.03	4.23	3.90	4.66	5.68	7.96	9.21	7.16	8.76	7.12	6.84	5.57
17	Eversource Energy	7.43	10.19	11.41	12.53	11.47	9.16	10.36	10.14	10.12	10.14	8.08	9.30	6.99	4.97	4.61	4.12	6.18	6.02	3.55	3.78	2.85	2.75
18	Evergy, Inc.	7.41	8.22	7.41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A							
19	Exelon Corp.	5.95	7.13	5.08	4.44	5.29	5.05	4.45	4.80	4.70	5.09	4.61	5.54	5.86	5.10	5.98	9.65	9.89	8.62	7.97	6.29	5.71	4.97
20	FirstEnergy Corp.	6.75	8.41	6.60	9.23	11.09	8.84	4.76	5.12	5.38	7.43	6.15	7.42	7.33	4.49	4.91	7.58	7.89	7.53	6.04	5.15	6.90	5.10
21	Fortis Inc.	8.43	9.92	9.57	9.50	9.46	7.97	8.23	10.46	7.29	9.25	7.93	8.09	8.38	7.40	6.76	7.58	9.18	7.89	N/A	N/A	N/A	N/A
22	Great Plains Energy	6.89	N/A	N/A	N/A	N/A	N/A	14.62	8.63	6.66	6.45	5.73	6.09	5.74	4.49	5.06	7.71	7.13	7.68	6.70	6.52	5.92	5.14
23	Hawaiian Elec.	8.07	8.32	8.23	8.69	9.30	8.34	9.21	7.44	9.25	7.64	8.15	8.05	7.73	7.81	6.95	9.10	7.95	8.47	8.29	8.44	6.12	6.20
24	IDACORP, Inc.	8.70	12.93	11.84	11.38	12.75	11.72	11.56	10.95	9.37	8.59	7.78	7.05	6.64	6.52	5.31	7.10	8.23	7.73	7.55	7.15	7.27	7.53
25	NextEra Energy, Inc.	8.82	15.61	20.40	15.48	12.33	10.77	11.61	9.24	7.93	7.98	7.60	7.58	5.98	5.33	6.09	7.34	9.02	6.51	6.71	6.71	5.97	5.77
26	NorthWestern Corp	7.85	8.37	8.83	8.88	9.93	8.19	8.82	8.65	8.99	9.01	7.61	6.85	5.89	5.79	5.05	5.57	8.45	9.39	7.31	8.13	N/A	N/A
27	OGE Energy	7.92	8.27	7.64	8.38	10.58	9.36	10.52	9.03	9.25	10.65	9.93	7.35	7.48	6.61	5.37	6.43	7.58	7.50	7.04	6.73	5.62	5.39
28	Otter Tail Corp.	9.41	9.04	8.61	9.99	12.42	11.58	11.09	9.38	9.04	9.45	9.58	8.43	9.04	8.07	8.01	11.65	9.53	8.66	8.18	9.01	8.13	8.33
29	Pinnacle West Capital	6.25	6.36	6.19	7.49	8.30	7.09	8.73	7.89	6.91	7.03	6.85	6.34	5.80	5.65	3.84	4.19	4.76	4.48	7.48	5.88	4.80	5.21
30	PNM Resources	6.90	7.09	7.81	7.87	7.92	7.57	7.40	7.64	6.95	7.48	6.47	5.80	4.94	4.58	4.53	7.10	10.67	7.50	7.62	6.84	5.55	5.72
31	Portland General	5.93	6.51	6.48	6.72	7.65	6.56	7.45	7.12	6.73	5.49	6.06	5.08	4.86	4.13	4.63	4.81	5.34	5.74	N/A	N/A	N/A	N/A
32	PPL Corp.	7.79	8.93	13.74	7.46	7.99	7.02	10.11	8.37	8.73	7.32	6.59	5.87	5.98	7.46	8.82	9.17	8.90	7.58	7.57	6.49	5.41	5.30
33	Public Serv. Enterprise	7.73	9.93	11.32	8.22	8.72	9.48	8.67	8.56	6.66	6.48	6.40	6.40	6.03	6.04	6.20	8.46	9.83	8.41	8.59	7.17	6.79	6.24
34	SCANA Corp.	7.09	N/A	N/A	N/A	N/A	N/A	8.26	9.59	8.33	7.50	7.49	7.40	6.75	6.52	5.88	6.38	7.15	7.03	5.40	6.86	6.59	6.36
35	Sempra Energy	8.37	10.17	13.23	10.40	12.05	10.10	10.65	10.88	9.99	10.77	9.37	7.26	6.13	6.53	6.07	7.07	8.61	7.22	6.96	5.16	4.85	4.00
36	Southern Co.	8.20	9.68	8.72	8.34	8.80	7.05	7.49	8.83	8.23	8.42	8.30	8.75	8.22	7.79	7.08	8.18	8.62	8.47	8.41	8.28	8.28	7.83
37	Vectren Corp.	7.08	N/A	N/A	N/A	N/A	N/A	10.32	8.60	7.82	7.57	6.82	5.79	5.81	5.58	5.24	6.90	6.53	7.37	7.06	7.63	7.27	6.92
38	WEC Energy Group	9.07	12.07	11.99	13.67	12.88	10.82	11.04	10.95	12.90	10.27	9.58	9.24	8.43	8.15	6.87	7.57	7.84	7.27	6.40	6.27	4.91	4.27
39	Westar Energy	6.91	N/A	N/A	N/A	N/A	N/A	10.87	10.86	9.05	7.93	7.23	6.71	6.67	5.51	5.32	7.09	6.88	5.81	7.00	6.54	4.24	2.94
40	Xcel Energy Inc.	6.93	8.86	9.19	10.07	9.44	7.90	8.50	8.10	7.62	7.31	7.00	6.85	6.47	6.28	5.43	5.71	6.51	5.54	5.62	5.31	4.27	5.46
41	Average	7.53	8.97	9.28	9.10	9.60	8.86	9.21	8.50	7.96	7.81	7.31	6.91	6.49	5.94	5.54	6.98	7.73	7.11	7.05	6.70	5.62	5.50
42	Median	7.37	8.75	8.72	8.48	9.46	8.73	9.05	8.57	7.93	7.54	7.12	6.85	6.27	5.80	5.35	7.09	7.76	7.37	7.04	6.71	5.62	5.43

Sources:

<sup>1</sup> Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.

Data for the year 2020 was retrieved from Value Line Investment Surveys, March 12, April 23, and May 14, 2021.

Data for the year 2021 was retrieved from Value Line Investment Surveys, March 11, April 22, and May 13, 2022.

<sup>2</sup> The Value Line Investment Survey, September 9, October 21, and November 11, 2022.

#### Note:

<sup>a</sup> Based on the average of the high and low price and the projected Cash Flow per share.

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### Electric Utilities (Valuation Metrics)

Market Price to Book Value (MP/BV) Ratio <sup>1</sup>

		18-Year																			
Line	<u>Company</u>	Average	2022 2/b	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	
1	ALLETE	1.59	1.33	1.43	1.39	1.91	1.79	1.78	1.53	1.37	1.42	1.51	1.34	1.35	1.28	1.15	1.55	1.89	2.09	2.22	
2	Alliant Energy	1.78	2.39	2.26	2.30	2.32	2.16	2.38	2.17	1.86	1.86	1.70	1.57	1.46	1.31	1.04	1.33	1.67	1.52	1.33	
3	Ameren Corp.	1.54	2.24	2.13	2.21	2.26	1.95	1.93	1.67	1.46	1.45	1.29	1.18	0.90	0.83	0.78	1.25	1.60	1.62	1.68	
4	American Electric Power	1.62	2.01	1.87	2.09	2.20	1.82	1.88	1.81	1.55	1.54	1.40	1.31	1.23	1.23	1.08	1.48	1.85	1.56	1.57	
5	Avangrid, Inc.	0.93	0.89	1.01	0.97	1.02	1.02	0.93	0.83	0.72	N/A										
6	Avista Corp.	1.33	1.34	1.42	1.37	1.54	1.88	1.73	1.57	1.36	1.33	1.25	1.21	1.19	1.07	0.94	1.11	1.29	1.30	1.13	
7	Black Hills	1.52	1.61	1.52	1.55	1.95	1.61	2.06	1.94	1.59	1.79	1.62	1.21	1.14	1.07	0.83	1.22	1.57	1.47	1.63	
8	CenterPoint Energy	2.32	2.00	1.74	1.90	2.21	2.18	2.59	2.73	2.43	2.27	2.30	1.99	1.87	1.96	1.77	2.49	3.13	2.75	3.06	
9	CMS Energy Corp.	2.14	2.89	2.69	3.24	3.28	2.81	2.93	2.72	2.43	2.26	2.09	1.91	1.66	1.48	1.10	1.23	1.82	1.42	1.32	
10	Consol. Edison	1.41	1.54	1.34	1.44	1.59	1.49	1.63	1.58	1.42	1.34	1.38	1.47	1.38	1.22	1.08	1.17	1.47	1.47	1.52	
11	Dominion Resources	2.61	2.25	2.37	2.72	2.18	2.40	2.94	3.15	3.34	3.55	2.97	2.84	2.37	2.01	1.80	2.42	2.69	2.07	2.50	
12	DTE Energy	1.58	2.51	2.82	1.80	2.07	1.91	2.01	1.82	1.65	1.62	1.51	1.35	1.20	1.16	0.89	1.10	1.35	1.29	1.39	
13	Duke Energy	1.25	1.59	1.58	1.47	1.47	1.33	1.41	1.35	1.29	1.28	1.19	1.12	1.11	1.00	0.91	1.06	1.15	N/A	N/A	
14	Edison Int'l	1.67	1.74	1.67	1.62	1.80	1.97	2.17	1.92	1.76	1.68	1.57	1.53	1.24	1.07	1.04	1.56	2.05	1.80	1.93	
15	El Paso Electric	1.56	N/A	N/A	N/A	N/A	1.94	1.87	1.68	1.48	1.52	1.49	1.59	1.64	1.17	0.98	1.33	1.69	1.71	1.76	
16	Entergy Corp.	1.75	1.89	1.75	1.93	2.03	1.74	1.76	1.67	1.40	1.33	1.21	1.31	1.35	1.62	1.66	2.44	2.65	1.89	2.01	
17	Eversource Energy	1.52	1.87	2.00	2.11	1.99	1.68	1.73	1.64	1.53	1.47	1.38	1.28	1.50	1.31	1.12	1.31	1.60	1.22	1.05	
18	Evergy, Inc.	1.50	1.60	1.50	N/A																
19	Exelon Corp.	2.12	1.94	1.37	1.20	1.43	1.31	1.20	1.20	1.14	1.28	1.17	1.46	1.95	2.07	2.57	4.39	4.79	3.89	3.60	
20	FirstEnergy Corp.	2.04	2.67	2.33	2.81	3.39	2.67	3.53	2.37	1.16	1.15	1.28	1.44	1.33	1.36	1.54	2.52	2.23	1.92	1.64	
21	Fortis Inc.	1.47	1.57	1.48	1.47	1.41	1.24	1.41	1.26	1.33	1.35	1.45	1.59	1.59	1.56	1.33	1.48	1.63	1.96	N/A	
22	Great Plains Energy	1.21	N/A	N/A	N/A	N/A	N/A	1.33	1.17	1.12	1.11	1.02	0.96	0.93	0.87	0.80	1.11	1.66	1.77	1.86	
23	Hawaiian Elec.	1.66	1.85	1.81	1.82	2.02	1.76	1.76	1.63	1.71	1.49	1.54	1.62	1.54	1.44	1.16	1.61	1.57	2.01	1.78	
24	IDACORP, Inc.	1.48	1.96	1.88	1.84	2.10	1.96	1.94	1.76	1.54	1.45	1.33	1.19	1.17	1.13	0.92	1.09	1.26	1.37	1.22	
25	NextEra Energy, Inc.	2.26	4.08	4.27	3.58	2.75	2.32	2.35	2.30	2.09	2.15	1.93	1.74	1.55	1.49	1.70	2.06	2.34	1.80	1.93	
26	NorthWestern Corp	1.46	1.26	1.43	1.45	1.74	1.48	1.64	1.68	1.60	1.54	1.56	1.42	1.35	1.22	1.07	1.15	1.48	1.65	1.42	
27	OGE Energy	1.84	1.83	1.67	1.86	2.06	1.75	1.82	1.73	1.79	2.22	2.24	1.94	1.90	1.70	1.37	1.52	1.98	1.91	1.80	
28	Otter Tail Corp.	1.87	2.54	2.33	2.04	2.62	2.49	2.33	1.90	1.78	1.90	1.96	1.58	1.35	1.19	1.18	1.71	1.93	1.76	1.74	
29	Pinnacle West Capital	1.43	1.33	1.45	1.63	1.91	1.74	1.91	1.72	1.52	1.44	1.47	1.39	1.25	1.14	0.95	1.00	1.26	1.26	1.25	
30	PNM Resources	1.32	1.71	1.86	1.87	2.28	1.83	1.84	1.56	1.33	1.21	1.09	0.98	0.80	0.69	0.56	0.66	1.23	1.21	1.45	
31	Portland General	1.35	1.58	1.55	1.57	1.84	1.56	1.69	1.56	1.42	1.37	1.28	1.14	1.09	0.94	0.92	1.05	1.32	1.36	N/A	
32	PPL Corp.	2.06	1.42	1.52	1.63	1.86	1.81	2.40	2.46	2.24	1.64	1.55	1.58	1.47	1.61	2.10	3.19	3.05	2.43	2.50	
33	Public Serv. Enterprise	1.91	2.35	2.11	1.70	1.97	1.81	1.68	1.67	1.58	1.57	1.44	1.46	1.59	1.67	1.78	2.58	2.99	2.46	2.45	
34	SCANA Corp.	1.51	N/A	N/A	N/A	N/A	N/A	1.65	1.74	1.47	1.48	1.48	1.48	1.36	1.33	1.20	1.45	1.62	1.64	1.72	
35	Sempra Energy	1.80	1.84	1.64	1.84	2.22	2.06	2.24	2.00	2.17	2.20	1.84	1.53	1.28	1.35	1.32	1.60	1.87	1.70	1.73	
36	Southern Co.	2.08	2.61	2.39	2.20	2.13	1.89	2.07	2.01	1.99	2.02	2.04	2.15	1.99	1.83	1.73	2.12	2.24	2.23	2.35	
37	Vectren Corp.	1.83	N/A	N/A	N/A	N/A	N/A	2.75	2.29	2.11	2.08	1.82	1.57	1.53	1.41	1.34	1.64	1.74	1.77	1.82	
38	WEC Energy Group	2.02	2.72	2.61	2.84	2.62	2.11	2.10	2.09	1.82	2.34	2.21	2.05	1.81	1.65	1.40	1.57	1.77	1.71	1.62	
39	Westar Energy	1.37	N/A	N/A	N/A	N/A	N/A	1.94	1.95	1.49	1.44	1.33	1.26	1.20	1.10	0.93	1.10	1.36	1.30	1.41	
40	Xcel Energy Inc.	1.69	2.28	2.27	2.46	2.34	1.97	2.06	1.88	1.66	1.55	1.50	1.51	1.41	1.32	1.19	1.30	1.53	1.40	1.38	
41	Average	1.73	1.98	1.92	1.94	2.07	1.87	1.98	1.84	1.66	1.68	1.59	1.51	1.42	1.34	1.24	1.63	1.90	1.77	1.79	
42	Median	1.69	1.87	1.75	1.84	2.04	1.83	1.91	1.74	1.55	1.53	1.49	1.47	1.35	1.31	1.14	1.46	1.68	1.71	1.72	

Sources:

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<sup>2</sup> The Value Line Investment Survey, September 9, October 21, and November 11, 2022.

#### Notes:

<sup>b</sup> Based on the average of the high and low price and the projected Book Value per share.

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Electric Utilities

(Valuation Metrics)

Dividend Yield<sup>1</sup>

		17-Year																	
Line	Company	Average	2022 2/a	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	ALL CTC	0.04%	4.450/	0.000/	4.000/	0.050/	0.000/	0.070/	0.50%	0.070/	0.000/	0.000/	4.400/	4.500/	5.000/	5 700/	4.070/	0.000/	0.400/
1	ALLETE Alliant Engrav	3.94%	4.15%	3.88%	4.03%	2.85%	2.99%	2.97%	3.56%	3.97%	3.92%	3.89%	4.49%	4.58%	5.03%	5.79%	4.37%	3.60%	3.10%
3	Ameren Corp.	4.26%	2.63%	2.74%	2.57%	2.59%	3.04%	3.12%	3.50%	3.96%	4.02%	4.61%	4.97%	5.28%	5.76%	5.98%	6.21%	4.88%	4.93%
4	American Electric Power	4.00%	3.34%	3.61%	3.28%	3.10%	3.60%	3.42%	3.54%	3.80%	3.83%	4.23%	4.58%	4.96%	4.90%	5.50%	4.20%	3.40%	4.06%
5	Avangrid, Inc.	3.71%	3.94%	3.53%	3.69%	3.52%	3.49%	3.79%	4.26%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	3.77%	4.23%	3.94%	4.03%	3.48%	2.93%	3.14%	3.39%	3.97%	3.99%	4.51%	4.55%	4.54%	4.76%	4.49%	3.39%	2.68%	2.52%
7	Black Hills	3.72%	3.32%	3.50%	3.42%	2.74%	3.31%	2.75%	2.87%	3.55%	2.84%	3.19%	4.39%	4.64%	4.79%	6.17%	4.21%	3.40%	3.79%
8	CMS Energy Corp	4.34%	2.41%	2.77%	4.38%	2.98%	4.09%	4.79%	4.70% 2.99%	3.36%	3.94%	3.57%	4.04%	4.27%	3.98%	0.37% 3.97%	4.98%	3.87%	4.39% N/Δ
10	Consol. Edison	4.38%	3.51%	4.10%	3.87%	3.44%	3.68%	3.40%	3.62%	4.12%	4.38%	4.25%	4.07%	4.46%	5.16%	5.99%	5.67%	4.84%	5.04%
11	Dominion Resources	4.01%	3.55%	3.38%	4.31%	4.76%	4.72%	3.88%	3.82%	3.66%	3.43%	3.78%	4.06%	4.13%	4.41%	5.20%	3.77%	3.32%	3.60%
12	DTE Energy	4.05%	2.83%	3.06%	3.57%	3.07%	3.34%	3.15%	3.34%	3.53%	3.54%	3.84%	4.19%	4.68%	4.75%	6.29%	5.24%	4.36%	4.86%
13	Duke Energy	4.67%	3.98%	4.02%	4.35%	4.17%	4.54%	4.15%	4.26%	4.34%	4.26%	4.45%	4.68%	5.21%	5.71%	6.25%	5.16%	4.44%	N/A
14	Edison Inti	3.23%	4.37%	4.39%	4.29%	3.73% N/A	3.84%	2.87%	2.81%	2.83%	2.62%	2.85%	2.97%	3.37%	3.00%	3.95%	2.69%	2.21% N/A	2.58%
16	Enteray Corp	4.04%	3.60%	3.84%	3.55%	3.52%	4.41%	4 49%	4.55%	4.59%	4.47%	2.99%	4.91%	4.85%	4.20%	3.97%	2.92%	2.39%	2.82%
17	Eversource Energy	3.24%	3.09%	2.85%	2.63%	2.81%	3.32%	3.14%	3.22%	3.34%	3.40%	3.48%	3.52%	3.23%	3.64%	4.16%	3.25%	2.60%	3.27%
18	Evergy, Inc.	3.59%	3.52%	3.59%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	3.81%	2.89%	3.17%	3.82%	3.06%	3.32%	3.51%	3.75%	3.88%	3.69%	4.69%	5.73%	4.96%	4.95%	4.26%	2.78%	2.48%	2.83%
20	FirstEnergy Corp.	4.35%	3.71%	4.39%	4.17%	3.50%	5.17%	4.62%	4.31%	4.23%	4.26%	4.26%	4.90%	5.23%	5.76%	5.09%	3.21%	3.12%	3.40%
21	Great Plains Energy	3.68%	3.62% N/A	3.77% N/A	3.66% N/A	3.60% N/A	4.07% N/Δ	3.69%	3.80%	3.76%	3.88%	3.84%	3.64%	3.58%	3.80%	4.21%	3.76% 6.96%	3.01% 5.49%	2.79%
23	Hawaiian Elec	4.47%	3.58%	3 44%	3.40%	3.02%	3.54%	3.65%	3.99%	4.05%	4.76%	4.72%	4.70%	5.04%	5.51%	6.89%	5.00%	5.18%	4.59%
24	IDACORP, Inc.	3.17%	2.84%	2.89%	2.92%	2.49%	2.61%	2.58%	2.77%	3.06%	3.12%	3.21%	3.28%	3.10%	3.44%	4.46%	3.95%	3.55%	3.39%
25	NextEra Energy, Inc.	2.97%	2.11%	1.90%	2.10%	2.41%	2.68%	2.79%	2.91%	3.01%	3.02%	3.30%	3.65%	3.96%	3.90%	N/A	N/A	N/A	N/A
26	NorthWestern Corp	4.07%	4.49%	4.00%	4.02%	3.28%	3.86%	3.52%	3.43%	3.61%	3.30%	3.66%	4.17%	4.51%	4.93%	5.75%	5.38%	4.09%	3.65%
27	Offer Tail Corp	3.75%	4.27%	4.81%	4.68%	3.54%	3.98%	3.61%	3.87%	3.51%	2.63%	2.48%	2.94%	3.06%	3.68%	4.96%	4.52%	3.77%	3.99%
20	Pinnacle West Capital	4.02 %	4 88%	4 44%	3.97%	3 20%	3.55%	3.16%	3.46%	3.88%	4.14%	3 98%	5 32%	4 81%	5.43%	6.76%	6 17%	4 75%	4.67%
30	PNM Resources	3.15%	3.06%	2.09%	2.80%	2.45%	2.79%	2.53%	2.69%	2.90%	2.79%	2.99%	2.96%	3.19%	4.09%	4.76%	4.85%	3.36%	3.21%
31	Portland General	3.67%	3.62%	3.62%	3.47%	2.85%	3.27%	2.92%	3.06%	3.27%	3.34%	3.67%	4.11%	4.37%	5.20%	5.36%	4.28%	3.34%	2.54%
32	PPL Corp.	4.61%	3.93%	5.83%	5.84%	5.24%	5.61%	4.24%	4.25%	4.55%	4.45%	4.81%	5.07%	5.10%	5.12%	4.51%	3.10%	2.69%	3.41%
33	Public Serv. Enterprise	3.76%	3.37%	3.37%	3.64%	3.19%	3.49%	3.74%	3.78%	3.81%	3.92%	4.35%	4.55%	4.24%	4.30%	4.30%	3.26%	2.73%	3.47%
34	Scana Corp.	4.37%	N/A 2.00%	N/A 2.20%	N/A 2.24%	N/A 2.99%	N/A 2 20%	4.03%	3.29%	3.90%	4.05%	4.15%	4.25%	4.78%	4.93%	3.22%	4.92%	4.29%	4.21%
36	Southern Co.	4.65%	3.82%	4.17%	4.36%	4.41%	5.20%	4.63%	4 42%	4.78%	4.69%	4.61%	4.29%	4.63%	5.13%	5.52%	4.58%	4.39%	4.52%
37	Vectren Corp.	4.38%	N/A	N/A	N/A	N/A	N/A	2.79%	3.31%	3.60%	3.62%	4.15%	4.82%	5.06%	5.53%	5.85%	4.79%	4.53%	4.52%
38	WEC Energy Group	3.02%	2.98%	3.00%	2.68%	2.81%	3.38%	3.31%	3.35%	3.49%	3.40%	3.49%	3.24%	3.35%	2.97%	3.16%	2.41%	2.14%	2.18%
39	Westar Energy	4.37%	N/A	N/A	N/A	N/A	N/A	3.00%	2.90%	3.73%	3.88%	4.27%	4.57%	4.84%	5.32%	6.27%	5.22%	4.16%	4.28%
40	Xcel Energy Inc.	3.76%	2.84%	2.81%	2.58%	2.75%	3.25%	3.10%	3.33%	3.69%	3.83%	3.86%	3.90%	4.20%	4.54%	5.14%	4.70%	4.05%	4.40%
41	Average	3.85%	3.41%	3.52%	3.60%	3.23%	3.60%	3.40%	3.52%	3.74%	3.68%	3.89%	4.20%	4.32%	4.66%	5.18%	4.25%	3.53%	3.72%
42	Median	3.62%	3.51%	3.50%	3.61%	3.06%	3.38%	3.16%	3.46%	3.75%	3.76%	3.85%	4.18%	4.48%	4.79%	5.28%	4.25%	3.43%	3.62%
43	20-Yr Treasury Yields <sup>3</sup>	3.19%	3.30%	1.98%	1.35%	2.40%	3.02%	2.65%	2.23%	2.55%	3.07%	3.12%	2.54%	3.62%	4.03%	4.11%	4.36%	4.91%	4.99%
44	20-Yr TIPS <sup>3</sup>	1.03%	0.64%	-0.43%	-0.30%	0.60%	0.94%	0.75%	0.66%	0.78%	0.87%	0.75%	0.21%	1.19%	1.73%	2.21%	2.19%	2.36%	2.31%
45	Implied Inflation <sup>b</sup>	2.14%	2.64%	2.42%	1.66%	1.79%	2.06%	1.89%	1.56%	1.75%	2.19%	2.35%	2.33%	2.40%	2.26%	1.85%	2.13%	2.49%	2.62%
46	Real Dividend Yield	1.67%	0.75%	1.07%	1.90%	1.41%	1.51%	1.48%	1.94%	1.96%	1.46%	1.50%	1.83%	1.88%	2.35%	3.26%	2.07%	1.01%	1.06%
	A-Bated Utility																		
47	Nominal "A" Rated Yield <sup>4</sup>	4 65%	4 74%	3 10%	3.05%	3 77%	4 25%	4 00%	3 93%	4 12%	4 28%	4 48%	4 13%	5 04%	5 46%	6 04%	6 53%	6.07%	6.07%
48	Real "A" Rated Yield	2 46%	2.05%	0.67%	1 37%	1 94%	2 14%	2.07%	2 34%	2 33%	2 04%	2.08%	1 76%	2 58%	3 13%	4 11%	4 31%	3.49%	3 36%
-10		2.4070	2.0070	0.01 /0	1.01 /0	1.0470	2.1470	2.07.70	2.0470	2.0070	2.0470	2.0070		2.0070	0.1070	4.1170	4.0170	0.4070	0.0070
	Baa-Rated Utility																		
49	Nominal "Baa" Rated Yield	5.17%	5.05%	3.36%	3.44%	4.19%	4.67%	4.38%	4.67%	5.03%	4.80%	4.98%	4.83%	5.57%	5.96%	7.06%	7.25%	6.33%	6.32%
50	Real "Baa" Rated Yield	2.96%	2.35%	0.91%	1.74%	2.36%	2.55%	2.44%	3.07%	3.22%	2.55%	2.57%	2.44%	3.09%	3.62%	5.11%	5.01%	3.74%	3.60%
	Spreads (A-Rated Utility Bond - Stock)	_																	
51	Nominal Spread	0.80%	1.33%	-0.41%	-0.55%	0.54%	0.65%	0.60%	0.41%	0.37%	0.60%	0.59%	-0.07%	0.72%	0.80%	0.86%	2.28%	2.55%	2.35%
52	Real Spread*	0.78%	1.29%	-0.40%	-0.54%	0.53%	0.64%	0.59%	0.40%	0.36%	0.59%	0.58%	-0.07%	0.70%	0.79%	0.85%	2.23%	2.49%	2.29%
	Parendo (Peo Poted Hillity Pend Or1)																		
50	Spreaus (Baa-Rated Utility Bond - Stock)		4.0494	0.40%	0.40%	0.070/	4.070/	0.000/	4 4500	4.000/	4.40%	4.40%	0.000/	4.0.40	4 000/	4.000/	0.000/	0.000/	0.000
53	Nominal opread	1.32%	1.04%	-0.16%	-0.16%	0.97%	1.07%	0.98%	1.15%	1.28%	1.12%	1.10%	0.02%	1.24%	1.30%	1.88%	3.00%	2.80%	2.00%
D4	real opread	1.29%	1.60%	-0.16%	-0.16%	0.95%	1.05%	0.90%	1.13%	1.20%	1.10%	1.07%	0.61%	1.22%	1.28%	1.84%	2.93%	2.14%	2.53%
	Spreads (Treasury Bond - Stock)																		
55	Nominal <sup>1</sup>	-0.66%	-0.11%	-1.54%	-2.24%	-0.83%	-0.58%	-0.75%	-1.30%	-1.20%	-0.60%	-0.77%	-1.66%	-0.70%	-0.63%	-1.07%	0.11%	1.38%	1.28%
56	Real <sup>9</sup>	-0.65%	-0.11%	-1.50%	-2.21%	-0.81%	-0.57%	-0.73%	-1.28%	-1.18%	-0.59%	-0.75%	-1.62%	-0.68%	-0.62%	-1.05%	0.11%	1.35%	1.24%
		0.0070	0/6		<b>_</b> /0	0.0170	0.01 /0	0070			0.0070	0.1078		0.00 /8	0.02 /0		0/0		

Trends in Dividend Yield and "A" Rated Utility Bond Yield



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### Electric Utilities (Valuation Metrics)

										Dividend p	per Share'								
		17-Year																	
l ine	Company	Average	2022 <sup>2</sup>	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
	oompany	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
		(1)	(2)	(3)	(4)	(3)	(0)	(7)	(0)	(3)	(10)	(11)	(12)	(13)	(14)	(13)	(10)	(17)	(10)
4		1.00	2.00	2.52	0.47	0.05	2.24	0.44	2.00	2.02	1.00	1.00	1 0 4	1 70	4 70	4 70	4 70	1.04	4 45
2	ALLETE Alliant Energy	1.90	2.00	2.52	2.47	2.30	2.24	2.14	2.00	2.02	1.90	0.04	1.04	1.70	0.70	0.75	0.70	1.04	1.45
2	Amana Energy	1.04	1.71	1.01	1.52	1.42	1.34	1.26	1.10	1.10	1.02	0.94	0.90	0.65	0.79	0.75	0.70	0.64	0.56
3	Ameren Corp.	1.89	2.36	2.20	2.00	1.92	1.85	1.78	1.72	1.66	1.61	1.60	1.60	1.56	1.54	1.54	2.54	2.54	2.54
4	American Electric Power	2.10	3.17	3.00	2.84	2.71	2.53	2.39	2.27	2.15	2.03	1.95	1.88	1.85	1.71	1.64	1.64	1.58	1.50
5	Avangrid, Inc.	1.75	1.76	1.76	1.76	1.76	1.74	1.73	1.73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	1.18	1.76	1.69	1.62	1.55	1.49	1.43	1.37	1.32	1.27	1.22	1.16	1.10	1.00	0.81	0.69	0.60	0.57
7	Black Hills	1.66	2.41	2.29	2.17	2.05	1.93	1.81	1.68	1.62	1.56	1.52	1.48	1.46	1.44	1.42	1.40	1.37	1.32
8	CenterPoint Energy	0.87	0.71	0.66	0.90	0.86	1.12	1.35	1.03	0.99	0.95	0.83	0.81	0.79	0.78	0.76	0.73	0.68	0.60
9	CMS Energy Corp.	1.05	1.84	1.74	1.63	1.53	1.43	1.33	1.24	1.16	1.08	1.02	0.96	0.84	0.66	0.50	0.36	0.20	N/A
10	Consol. Edison	2.60	3.16	3.10	3.06	2.96	2.86	2.76	2.68	2.60	2.52	2.46	2.42	2.40	2.38	2.36	2.34	2.32	2.30
11	Dominion Resources	2.38	2.67	2.52	3.45	3.67	3.34	3.04	2.80	2.59	2.40	2.25	2.11	1.97	1.83	1.75	1.58	1.46	1.38
12	DTE Energy	2.83	3.60	3.88	4.12	3.85	3.59	3.36	3.06	2.84	2.69	2.59	2.42	2.32	2.18	2.12	2.12	2.12	2.08
13	Duke Energy	3.23	3.98	3.90	3.82	3.75	3.64	3.49	3.36	3.24	3.15	3.09	3.03	2.97	2.91	2.82	2.70	2.58	N/A
14	Edison Int'l	1.72	2.84	2.69	2.58	2.48	2.43	2.23	1.98	1.73	1.48	1.37	1.31	1.29	1.27	1.25	1.23	1.18	1.10
15	El Paso Electric	1.11	N/A	N/A	N/A	N/A	1.42	1.32	1.23	1.17	1.11	1.05	0.97	0.66	N/A	N/A	N/A	N/A	N/A
16	Entergy Corp	3 27	4 09	3.86	3 74	3.66	3.58	3.50	3.42	3 34	3.32	3.32	3.32	3.32	3 24	3.00	3.00	2.58	2 16
17	Eversource Energy	1.50	2.55	2 41	2 27	2 14	2.02	1 90	1 78	1.67	1.57	1 47	1.32	1 10	1.03	0.95	0.83	0.78	0.73
18	Everav Inc	2.18	2.00	2.18	N/A	N/A	N/A	N/A	N/A	NI/A	NI/A	NI/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10	Evelop Corp	1.64	1 35	1.53	1.53	1.45	1 38	1 31	1.26	1.24	1.24	1.46	2 10	2 10	2 10	2 10	2.05	1.82	1.64
20	Exercit Corp.	1.04	1.55	1.55	1.55	1.45	1.00	1.31	1.20	1.24	1.24	1.40	2.10	2.10	2.10	2.10	2.00	2.05	1.04
20	FirstEnergy Corp.	1.00	1.00	1.00	1.00	1.00	1.02	1.44	1.44	1.44	1.44	1.05	2.20	2.20	2.20	2.20	2.20	2.05	1.00
21	Portis Inc.	1.37	2.21	2.06	1.97	1.00	1.75	1.05	1.55	1.43	1.30	1.25	1.21	1.17	1.12	1.04	1.00	0.62	0.67
22	Great Plains Energy	1.11	N/A	N/A	N/A	N/A	N/A	1.10	1.06	1.00	0.94	0.88	0.86	0.84	0.83	0.83	1.66	1.66	1.66
23	Hawaiian Elec.	1.26	1.40	1.36	1.32	1.28	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
24	IDACORP, Inc.	1.79	3.05	2.88	2.72	2.56	2.40	2.24	2.08	1.92	1.76	1.57	1.37	1.20	1.20	1.20	1.20	1.20	1.20
25	NextEra Energy, Inc.	0.79	1.70	1.54	1.40	1.25	1.11	0.98	0.87	0.77	0.73	0.66	0.60	0.55	0.50	0.47	0.45	0.41	0.38
26	NorthWestern Corp	1.75	2.52	2.48	2.40	2.30	2.20	2.10	2.00	1.92	1.60	1.52	1.48	1.44	1.36	1.34	1.32	1.28	1.24
27	OGE Energy	1.03	1.66	1.63	1.58	1.51	1.40	1.27	1.16	1.05	0.95	0.85	0.80	0.76	0.73	0.71	0.70	0.68	0.67
28	Otter Tail Corp.	1.26	1.65	1.56	1.48	1.40	1.34	1.28	1.25	1.23	1.21	1.19	1.19	1.19	1.19	1.19	1.19	1.17	1.15
29	Pinnacle West Capital	2.50	3.44	3.36	3.23	3.04	2.87	2.70	2.56	2.44	2.33	2.23	2.67	2.10	2.10	2.10	2.10	2.10	2.03
30	PNM Resources	0.82	1.41	0.98	1.25	1.18	1.09	0.99	0.88	0.80	0.76	0.68	0.58	0.50	0.50	0.50	0.61	0.91	0.86
31	Portland General	1.19	1.79	1.70	1.59	1.52	1.43	1.34	1.26	1.18	1.12	1.10	1.08	1.06	1.04	1.01	0.97	0.93	0.68
32	PPL Corp.	1.47	1.07	1.66	1.66	1.65	1.64	1.58	1.52	1.50	1.49	1.47	1.44	1.40	1.40	1.38	1.34	1.22	1.10
33	Public Serv. Enterprise	1.54	2.16	2.04	1.96	1.88	1.80	1.72	1.64	1.56	1.48	1.44	1.42	1.37	1.37	1.33	1.29	1.17	1.14
34	SCANA Corp.	2.00	N/A	N/A	N/A	N/A	N/A	2.45	2.30	2.18	2.10	2.03	1.98	1.94	1.90	1.88	1.84	1.76	1.68
35	Sempra Energy	2.60	4.58	4.40	4.18	3.87	3.58	3.29	3.02	2.80	2.64	2.52	2.40	1.92	1.56	1.56	1.37	1.24	1.20
36	Southern Co	2.06	2 70	2.62	2 54	2 46	2.38	2 30	2.22	2 15	2.08	2 01	1 94	1.87	1 80	1 73	1.66	1.60	1.54
37	Vectren Corp	1 42	N/A	N/A	N/A	N/A	N/A	1 71	1.62	1.54	1.46	1 43	1 41	1.39	1.37	1.35	1.31	1 27	1.23
38	WEC Energy Group	1 49	2 91	2 71	2.53	2.36	2 21	2.08	1.98	1 74	1.56	1 45	1 20	1 04	0.80	0.68	0.54	0.50	0.46
30	Westar Energy	1 30	<u>2.3</u>	Ν/Δ	N/A	N/A	Δ.2.1 N/Δ	1.60	1.50	1 44	1.00	1 36	1 32	1.04	1 24	1 20	1 16	1.08	0.40
40	Ycel Epergy Inc	1.00	1 05	1.83	1 72	1.62	1.52	1.00	1.36	1.77	1 20	1 1 1	1.02	1.03	1.00	0.07	0.04	0.01	0.88
40	Addi Ellergy Inc.	1.24	1.30	1.05	1.72	1.02	1.52	1.44	1.50	1.20	1.20	1.11	1.07	1.03	1.00	0.37	0.34	0.31	0.00
11	Average	1 74	2 36	2.28	2 25	2 16	2.05	1 01	1 80	1 71	1 62	1 57	1 55	1 47	1 / 3	1 30	1 /0	1 3 3	1 25
40	Average	1./4	2.30	4 4 20/	4.200/	£.10 5.220/	2.00	6.000/	E 440/	E 270/	2 400/	0.07%	E 020/	0.4E0/	2.469/	0.50%	4.05%	6 540/	1.20
42	muusuy Average Growth	4.00%	3.40%	1.43%	4.30%	0.33%	1.00%	0.02%	J.44%	5.51%	3.40%	0.97%	3.03%	2.43%	3.10%	-0.52%	4.93%	0.01%	

Sources:

<sup>1</sup> Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.

Data for the year 2020 was retrieved from Value Line Investment Surveys, March 12, April 23, and May 14, 2021.

Data for the year 2021 was retrieved from Value Line Investment Surveys, March 11, April 22, and May 13, 2022.

<sup>2</sup> The Value Line Investment Survey, September 9, October 21, and November 11, 2022.

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### **Electric Utilities** (Valuation Metrics)

		Earnings per Share <sup>1</sup>																	
		17-Year																	
Line	Company	Average	<u>2022</u> 2	2021	2020	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	2012	<u>2011</u>	<u>2010</u>	2009	2008	2007	<u>2006</u>
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1	ALLETE	2.90	3.75	3.23	3.35	3.33	3.38	3.13	3.14	3.38	2.90	2.63	2.58	2.65	2.19	1.89	2.82	3.08	2.77
2	Alliant Energy	1.70	2.80	2.63	2.47	2.33	2.19	1.99	1.65	1.69	1.74	1.65	1.53	1.38	1.38	0.95	1.27	1.35	1.03
3	Ameren Corp.	2.83	4.10	3.84	3.50	3.35	3.32	2.77	2.68	2.38	2.40	2.10	2.41	2.47	2.77	2.78	2.88	2.98	2.66
4	American Electric Power	3.48	5.20	4.96	4.42	4.08	3.90	3.62	4.23	3.59	3.34	3.18	2.98	3.13	2.60	2.97	2.99	2.86	2.86
5	Avangrid, Inc.	1.79	2.37	1.97	1.88	2.26	1.92	1.67	1.98	0.86	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	1.78	1.95	2.10	1.90	2.97	2.07	1.95	2.15	1.89	1.84	1.85	1.32	1.72	1.65	1.58	1.36	0.72	1.47
7	Black Hills	2.55	4.10	3.74	3.73	3.53	3.47	3.38	2.63	2.83	2.89	2.61	1.97	1.01	1.66	2.32	0.18	2.68	2.21
8	CenterPoint Energy	1.20	1.40	0.94	1.29	1.49	0.74	1.57	1.00	1.08	1.42	1.24	1.35	1.27	1.07	1.01	1.30	1.17	1.33
9	CMS Energy Corp.	1.70	2.90	2.58	2.64	2.39	2.32	2.17	1.98	1.89	1.74	1.66	1.53	1.45	1.33	0.93	1.23	0.64	0.64
10	Consol. Edison	3.80	4.55	4.74	3.94	4.08	4.55	4.10	3.94	4.05	3.62	3.93	3.86	3.57	3.47	3.14	3.36	3.48	2.95
11	Dominion Resources	2.84	4.10	3.19	1.82	2.19	3.25	3.53	3.44	3.20	3.05	3.09	2.75	2.76	2.89	2.64	3.04	2.13	2.40
12	DTE Energy	4.37	4.75	4.10	7.08	6.31	6.17	5.73	4.83	4.44	5.10	3.76	3.88	3.67	3.74	3.24	2.73	2.66	2.45
13	Duke Energy	3.93	5.45	4.93	3.92	5.07	4.13	4.22	3.71	4.10	4.13	3.98	3.71	4.14	4.02	3.39	3.03	3.60	2.73
14	Edison Int'l	3.24	4.50	2.00	1.72	3.98	-1.26	4.51	3.94	4.15	4.33	3.78	4.55	3.23	3.35	3.24	3.68	3.32	3.28
15	El Paso Electric	2.02	N/A	N/A	N/A	N/A	2.07	2.42	2.39	2.03	2.27	2.20	2.26	2.48	2.07	1.50	1.73	1.63	1.27
16	Entergy Corp.	6.14	6.60	6.87	6.90	6.30	5.88	5.19	6.88	5.81	5.77	4.96	6.02	7.55	6.66	6.30	6.20	5.60	5.36
17	Eversource Energy	2.51	4.10	3.54	3.55	3.45	3.25	3.11	2.96	2.76	2.58	2.49	1.89	2.22	2.10	1.91	1.86	1.59	0.82
18	Evergy, Inc.	3.83	3.55	3.83	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	2.90	2.25	1.74	2.60	3.01	2.07	2.78	1.80	2.54	2.10	2.31	1.92	3.75	3.87	4.29	4.10	4.03	3.50
20	FirstEnergy Corp.	2.59	2.44	2.69	1.85	1.84	1.33	2.73	2.10	2.00	0.85	2.97	2.13	1.88	3.25	3.32	4.38	4.22	3.82
21	Fortis Inc.	1.92	2.75	2.61	2.60	2.68	2.52	2.66	1.89	2.11	1.38	1.63	1.65	1.74	1.62	1.51	1.52	1.29	1.36
22	Great Plains Energy	1.33	N/A	N/A	N/A	N/A	N/A	-0.06	1.61	1.37	1.57	1.62	1.35	1.25	1.53	1.03	1.16	1.85	1.62
23	Hawaiian Elec.	1.58	2.15	2.25	1.81	1.99	1.85	1.64	2.29	1.50	1.64	1.62	1.67	1.44	1.21	0.91	1.07	1.11	1.33
24	IDACORP, Inc.	3.55	5.00	4.85	4.69	4.61	4.49	4.21	3.94	3.87	3.85	3.64	3.37	3.36	2.95	2.64	2.18	1.86	2.35
25	NextEra Energy, Inc.	1.37	2.90	1.81	2.10	1.94	1.67	1.63	1.45	1.52	1.40	1.21	1.14	1.21	1.19	0.99	1.02	0.82	0.81
26	NorthWestern Corp	2.63	3.35	3.60	3.06	3.53	3.40	3.34	3.39	2.90	2.99	2.46	2.26	2.53	2.14	2.02	1.77	1.44	1.31
27	OGE Energy	1.76	2.25	2.36	2.08	2.24	2.12	1.92	1.69	1.69	1.98	1.94	1.79	1.73	1.50	1.33	1.25	1.32	1.23
28	Otter Tail Corp.	1.62	6.00	4.23	2.34	2.17	2.06	1.86	1.60	1.56	1.55	1.37	1.05	0.45	0.38	0.71	1.09	1.78	1.69
29	Pinnacle West Capital	3.70	4.00	5.47	4.87	4.77	4.54	4.43	3.95	3.92	3.58	3.66	3.50	2.99	3.08	2.26	2.12	2.96	3.17
30	PNM Resources	1.43	2.60	2.27	2.15	2.28	1.66	1.92	1.65	1.64	1.45	1.41	1.31	1.08	0.87	0.58	0.11	0.76	1.72
31	Portland General	1.96	2.80	2.72	1.72	2.39	2.37	2.29	2.16	2.04	2.18	1.77	1.87	1.95	1.66	1.31	1.39	2.33	1.14
32	PPL Corp.	2.23	1.37	0.53	2.04	2.37	2.58	2.11	2.79	2.37	2.38	2.38	2.61	2.61	2.29	1.19	2.45	2.63	2.29
33	Public Serv. Enterprise	2.89	3.48	2.55	3.61	3.90	2.76	2.82	2.83	3.30	2.99	2.45	2.44	3.11	3.07	3.08	2.90	2.59	1.85
34	SCANA Corp.	3.30	N/A	N/A	N/A	N/A	N/A	4.20	4.16	3.81	3.79	3.39	3.15	2.97	2.98	2.85	2.95	2.74	2.59
35	Sempra Energy	4.72	8.65	4.01	6.58	5.97	5.48	4.63	4.24	5.23	4.63	4.22	4.35	4.47	4.02	4.78	4.43	4.26	4.23
36	Southern Co.	2.73	3.55	3.42	3.25	3.17	3.00	3.21	2.83	2.84	2.77	2.70	2.67	2.55	2.36	2.32	2.25	2.28	2.10
37	Vectren Corp.	1.94	N/A	N/A	N/A	N/A	N/A	2.60	2.55	2.39	2.02	1.66	1.94	1.73	1.64	1.79	1.63	1.83	1.44
38	WEC Energy Group	2.54	4.40	4.11	3.79	3.58	3.34	3.14	2.96	2.34	2.59	2.51	2.35	2.18	1.92	1.60	1.52	1.42	1.32
39	Westar Energy	1.96	N/A	N/A	N/A	N/A	N/A	2.27	2.43	2.09	2.35	2.27	2.15	1.79	1.80	1.28	1.31	1.84	1.88
40	Xcel Energy Inc.	2.01	3.15	2.96	2.79	2.64	2.47	2.30	2.21	2.10	2.03	1.91	1.85	1.72	1.56	1.49	1.46	1.35	1.35
41	Average	2.70	3.69	3.24	3.18	3.30	2.89	2.92	2.82	2.70	2.66	2.53	2.45	2.45	2.36	2.19	2.20	2.27	2.11
42	Industry Average Growth	3.67%	14.02%	1.94%	-3.70%	14.28%	-0.95%	3.31%	4.55%	1.35%	5.18%	3.33%	-0.08%	3.73%	8.14%	-0.77%	-2.88%	7.31%	

Sources:

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<sup>&</sup>lt;sup>1</sup> Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.

Data for the year 2020 was retrieved from Value Line Investment Surveys, March 12, April 23, and May 14, 2021.

Data for the year 2021 was retrieved from Value Line Investment Surveys, March 11, April 22, and May 13, 2022. <sup>2</sup> The Value Line Investment Survey, September 9, October 21, and November 11, 2022.

### Electric Utilities (Valuation Metrics)

		Cash Flow / Capital Spending													
	-						3 - 5 yr <sup>4</sup>								
Line	Company	2019 <sup>1</sup>	2020 <sup>1</sup>	2021 <sup>2</sup>	2022 <sup>3</sup>	<b>2023</b> <sup>4</sup>	Projection								
		(1)	(2)	(3)	(4)	(5)	(5)								
		.,	. ,	( )	. ,	( )	( )								
1	ALLETE	0.63x	0.74x	0.80x	2.26x	1.43x	1.34x								
2	Alliant Energy	0.73x	0.82x	0.97x	0.94x	0.97x	1.08x								
3	Ameren Corp.	0.79x	0.51x	0.59x	0.72x	0.80x	0.90x								
4	American Electric Power	0.75x	0.74x	0.69x	0.73x	0.84x	1.00x								
5	Avangrid, Inc.	0.70x	0.56x	0.62x	0.61x	0.60x	0.63x								
6	Avista Corp.	0.89x	0.85x	0.87x	0.83x	0.94x	1.12x								
7	Black Hills	0.51x	0.72x	0.76x	0.85x	0.92x	1.05x								
8	CenterPoint Energy	0.83x	0.88x	0.62x	0.62x	0.52x	0.62x								
9	CMS Energy Corp.	0.79x	0.82x	0.77x	0.78x	0.75x	0.90x								
10	Consol. Edison	0.79x	0.82x	0.89x	0.83x	0.72x	0.84x								
11	Dominion Resources	0.81x	1.00x	0.89x	0.74x	0.67x	1.07x								
12	DTE Energy	0.83x	0.67x	0.70x	0.75x	0.83x	0.92x								
13	Duke Energy	0.78x	0.86x	0.93x	0.81x	0.84x	0.96x								
14	Edison Int'l	0.69x	0.67x	0.74x	0.67x	0.77x	0.81x								
15	El Paso Electric	0.96x	1.00x	0.83x	N/A	N/A	N/A								
16	Entergy Corp.	0.79x	0.81x	1.05x	0.98x	0.94x	1.04x								
17	Eversource Energy	0.78x	0.95x	0.74x	0.72x	0.81x	1.05x								
18	Evergy, Inc.	1.34x	1.06x	0.96x	0.94x	0.91x	1.05x								
19	Exelon Corp.	1.18x	1.30x	1.32x	0.96x	0.99x	1.07x								
20	FirstEnergy Corp.	0.74x	0.96x	0.91x	0.86x	0.89x	0.98x								
21	Fortis Inc.	0.68x	0.60x	0.74x	0.75x	0.82x	0.91x								
22	Hawaiian Elec.	1.12x	1.10x	1.42x	1.30x	1.47x	1.38x								
23	IDACORP, Inc.	1.25x	1.25x	1.16x	0.83x	0.62x	1.03x								
24	NextEra Energy, Inc.	0.67x	0.58x	0.69x	0.54x	0.64x	0.68x								
25	NorthWestern Corp	1.07x	0.98x	0.82x	0.66x	0.75x	1.23x								
26	OGE Energy	1.26x	1.43x	1.13x	0.99x	1.04x	1.32x								
27	Otter Tail Corp.	0.80x	0.45x	1.42x	1.45x	1.12x	1.08x								
28	Pinnacle West Capital	0.98x	0.98x	0.85x	0.78x	0.83x	0.95x								
29	PNM Resources	0.72x	0.59x	0.51x	0.63x	0.63x	0.90x								
30	Portland General	0.99x	0.75x	0.97x	1.01x	1.07x	1.24x								
31	PPL Corp.	0.92x	1.06x	1.12x	1.35x	1.06x	1.18x								
32	Public Serv. Enterprise	1.07x	1.00x	1.05x	0.82x	0.89x	1.07x								
33	Sempra Energy	0.66x	0.92x	0.78x	0.92x	1.19x	1.45x								
34	Southern Co.	0.88x	1.01x	0.93x	0.97x	0.97x	1.23x								
35	WEC Energy Group	0.91x	0.70x	0.75x	0.87x	0.92x	1.11x								
36	Xcel Energy Inc.	0.69x	0.99x	0.86x	0.80x	0.92x	1.11x								
37	Average	0.86x	0.86x	0.88x	0.89x	0.89x	1.04x								
38	Median	0.80x	0.86x	0.86x	0.83x	0.89x	1.05x								

Source:

<sup>1</sup> The Value Line Investment Survey, January 24, February 14, and March 13, 2020.

<sup>2</sup> The Value Line Investment Survey, March 12, April 23, and May 14, 2021.

<sup>3</sup> The Value Line Investment Survey, March 11, April 22, and May 13, 2022.

<sup>4</sup> The Value Line Investment Survey, September 9, October 21, and November 11, 2022. Notes:

Based on the projected Cash Flow per share and Capital Spending per share.

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### **Electric Utilities** (Valuation Metrics)

		Percent Dividends to Book Value <sup>1</sup>																	
		17-Year																	
Line	<u>Company</u>	Average	2022 <sup>2/a</sup>	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1	ALLETE	5.95%	5.53%	5.56%	5.61%	5.44%	5.35%	5.29%	5.45%	5.45%	5.59%	5.86%	6.04%	6.18%	6.46%	6.67%	6.78%	6.80%	6.62%
2	Alliant Energy	6.33%	6.83%	6.73%	6.68%	6.68%	6.90%	7.32%	6.96%	6.70%	6.56%	6.36%	6.37%	6.26%	6.06%	5.98%	5.48%	5.23%	5.04%
3	Ameren Corp.	6.02%	5.87%	5.84%	5.67%	5.87%	5.92%	6.01%	5.86%	5.78%	5.82%	5.93%	5.87%	4.76%	4.79%	4.66%	7.74%	7.84%	7.97%
4	American Electric Power	6.28%	6.70%	6.74%	6.86%	6.82%	6.56%	6.43%	6.42%	5.90%	5.91%	5.91%	5.99%	6.10%	6.04%	5.97%	6.23%	6.28%	6.32%
5	Avangrid, Inc.	3.05%	3.52%	3.57%	3.58%	3.57%	3.57%	3.54%	3.53%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	4.99%	5.66%	5.61%	5.53%	5.37%	5.52%	5.41%	5.33%	5.38%	5.33%	5.65%	5.51%	5.42%	5.07%	4.23%	3.77%	3.44%	3.26%
7	Black Hills	5.33%	5.34%	5.32%	5.32%	5.34%	5.31%	5.67%	5.55%	5.66%	5.06%	5.17%	5.31%	5.30%	5.14%	5.10%	5.15%	5.34%	5.58%
8	CenterPoint Energy	9.85%	4.81%	4.82%	8.35%	6.59%	8.94%	12.39%	12.82%	12.30%	8.96%	8.23%	8.05%	7.97%	10.36%	11.28%	12.40%	12.12%	12.09%
9	CMS Energy Corp.	6.56%	7.93%	7.87%	8.57%	8.66%	8.52%	8.43%	8.14%	8.16%	8.10%	7.86%	7.94%	7.05%	5.90%	4.38%	3.31%	2.11%	0.00%
10	Consol. Edison	6.05%	5.41%	5.48%	5.56%	5.46%	5.49%	5.55%	5.72%	5.84%	5.87%	5.88%	5.97%	6.15%	6.27%	6.47%	6.60%	7.12%	7.40%
11	Dominion Resources	10.35%	7.98%	8.00%	11.72%	10.39%	11.31%	11.41%	12.04%	12.20%	12.16%	11.24%	11.50%	9.81%	8.86%	9.38%	9.14%	8.95%	7.46%
12	DIE Energy	6.11%	7.12%	8.64%	6.43%	6.34%	6.38%	6.34%	6.09%	5.81%	5.72%	5.79%	5.66%	5.60%	5.49%	5.59%	5.76%	5.91%	6.28%
13	Duke Energy	5.36%	6.34%	6.34%	6.39%	6.12%	6.04%	5.85%	5.73%	5.61%	5.45%	5.28%	5.22%	5.81%	5.72%	5.66%	5.45%	5.12%	0.00%
14	Edison Inti	5.26%	7.01%	7.36%	0.90%	0.73%	7.56%	6.23%	5.39%	4.97%	4.41%	4.48%	4.54%	4.16%	3.90%	4.12%	4.19%	4.53%	4.65%
15	El Paso Electric	2.94%	N/A	N/A	5.13%	N/A	4.94%	4.67%	4.62%	4.03%	4.53%	4.46%	4.72%	3.47%	0.00%	0.00%	0.00%	0.00%	0.00%
10	Entergy Corp.	0.72%	0.82%	6.72%	0.85%	7.13%	7.05%	7.90%	7.58%	0.44% 5.100/	5.95%	0.15%	0.42%	0.53%	0.82%	0.59%	1.13%	0.34%	5.34%
10	Eversource Energy	4.93%	5.62%	5.09%	5.34%	5.59% N/A	5.57 % N/A	5.43% N/A	5.27% N/A	0.12% N/A	4.99% N/A	4.02% N/A	4.49% N/A	4.00%	4.75% N/A	4.00%	4.20%	4.10%	4.00% N/A
10	Evelop Corp	3.37%	5.65% E.60%	3.41%	0.02%	1 2 00/	1 2 4 9/	IN/M	IN/A	N/A	4 7 29/	E 409/	0.200/	0.699/	10.25%	10.069/	10.010/	11 070/	11.00%
20	EirstEnergy Corp.	8 79%	0.00 %	10.26%	11 70%	11.86%	13.82%	16 34%	4.01%	4.42 /0	4.7270	5 44%	7.03%	6.93%	7 85%	7 84%	8 10%	6.96%	6 54%
21	Fortis Inc	5 36%	5 70%	5 59%	5 30%	5.08%	5.03%	5 19%	4.80%	5.00%	5 22%	5 58%	5.81%	5 70%	5.01%	5.60%	5 55%	4 90%	5.47%
22	Great Plains Energy	5 31%	N/A	N/A	N/A	N/A	N/A	4 78%	4.00%	4 21%	4.02%	3 91%	3 93%	3.84%	3 90%	4.03%	7 76%	9.13%	9.94%
23	Hawaijan Elec	7 23%	6.64%	6 22%	6 17%	6 12%	6 24%	6.43%	6.51%	6.01%	7 10%	7 27%	7.62%	7 77%	7 91%	7.06%	8 08%	8 11%	9.22%
24	IDACORP Inc	4 59%	5.58%	5 45%	5.36%	5 24%	5 11%	5.02%	4 87%	4 70%	4 53%	4 26%	3 91%	3.62%	3.87%	4 11%	4.32%	4 48%	4.66%
25	NextEra Energy Inc.	6 49%	8.63%	8 13%	7.51%	6.61%	6.22%	6.55%	6.69%	6.29%	6.49%	6.36%	6.34%	6.12%	5.82%	5.99%	6.30%	6.22%	6.21%
26	NorthWestern Corp	5.84%	5.65%	5 73%	5.84%	5.69%	5 70%	5 76%	5 77%	5 78%	5.08%	5 71%	5.90%	6.08%	6.01%	6 13%	6 21%	6.06%	6.00%
27	OGE Energy	6.78%	7.81%	8.04%	8.71%	7.28%	6.96%	6.59%	6.70%	6.30%	5.84%	5.56%	5.70%	5.81%	6.24%	6.79%	6.89%	7.47%	7.61%
28	Otter Tail Corp.	7.19%	5.99%	6.54%	7.05%	7.19%	7.29%	7.27%	7.34%	7.70%	7.86%	8.07%	8.25%	7.52%	6.77%	6.33%	6.22%	6.67%	6.90%
29	Pinnacle West Capital	6.18%	6.51%	6.43%	6.47%	6.29%	6.16%	6.03%	5.93%	5.91%	5.89%	5.84%	7.38%	6.00%	6.20%	6.42%	6.15%	5.98%	5.87%
30	PNM Resources	3.83%	5.23%	3.88%	5.23%	5.59%	5.12%	4.67%	4.18%	3.85%	3.37%	3.26%	2.89%	2.55%	2.84%	2.65%	3.20%	4.13%	3.89%
31	Portland General	4.79%	5.73%	5.61%	5.45%	5.24%	5.09%	4.94%	4.78%	4.64%	4.56%	4.70%	4.70%	4.78%	4.90%	4.93%	4.48%	4.42%	3.45%
32	PPL Corp.	8.96%	5.56%	8.89%	9.55%	9.74%	10.13%	10.18%	10.44%	10.19%	7.28%	7.43%	8.00%	7.48%	8.24%	9.47%	9.89%	8.20%	8.27%
33	Public Serv. Enterprise	6.89%	7.93%	7.12%	6.18%	6.28%	6.31%	6.27%	6.31%	6.03%	6.14%	6.28%	6.66%	6.75%	7.20%	7.66%	8.40%	8.15%	8.54%
34	SCANA Corp.	6.44%	N/A	N/A	N/A	N/A	N/A	6.67%	5.74%	5.72%	6.01%	6.14%	6.29%	6.48%	6.54%	6.80%	7.12%	6.94%	6.89%
35	Sempra Energy	5.32%	5.51%	5.56%	5.96%	6.39%	6.59%	6.53%	5.83%	5.89%	5.74%	5.60%	5.66%	4.68%	4.16%	4.27%	4.18%	3.89%	4.19%
36	Southern Co.	9.55%	9.98%	9.96%	9.59%	9.42%	9.95%	9.59%	8.89%	9.53%	9.48%	9.39%	9.22%	9.22%	9.38%	9.55%	9.74%	9.83%	10.07%
37	Vectren Corp.	7.71%	N/A	N/A	N/A	N/A	N/A	7.67%	7.60%	7.57%	7.51%	7.55%	7.57%	7.74%	7.78%	7.84%	7.85%	7.86%	7.97%
38	WEC Energy Group	6.20%	8.11%	7.83%	7.62%	7.36%	7.12%	6.94%	7.00%	6.35%	7.96%	7.71%	6.65%	6.05%	4.92%	4.42%	3.78%	3.77%	3.72%
39	Westar Energy	5.71%	N/A	N/A	N/A	N/A	N/A	5.82%	5.66%	5.57%	5.60%	5.70%	5.77%	5.81%	5.84%	5.83%	5.75%	5.64%	5.56%
40	Xcel Energy Inc.	6.15%	6.47%	6.38%	6.34%	6.42%	6.39%	6.38%	6.26%	6.13%	5.94%	5.78%	5.88%	5.91%	5.97%	6.09%	6.13%	6.19%	6.16%
41	Average	6.34%	6.50%	6.50%	6.69%	6.60%	6.72%	6.76%	6.48%	6.14%	6.10%	6.11%	6.29%	6.10%	6.06%	6.12%	6.36%	6.27%	6.06%
42	Median	6.06%	5.99%	6.34%	6.26%	6.32%	6.24%	6.27%	5.86%	5.81%	5.83%	5.82%	5.98%	6.06%	5.99%	5.99%	6.21%	6.21%	6.19%

Sources:

Sources: <sup>1</sup> Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021. Data for the year 2020 was retrieved from Value Line Investment Surveys, March 12, April 23, and May 14, 2021. Data for the year 2021 was retrieved from Value Line Investment Surveys, March 11, April 22, and May 13, 2022. <sup>2</sup> The Value Line Investment Survey, September 9, October 21, and November 11, 2022. <sup>a</sup> Based on the projected 2022 Dividend Declared per share and Book Value per share, published in The Value Line Investment Survey, September 9, October 21, and November 11, 2022.

### **Electric Utilities** (Valuation Metrics)

		Dividends to Earnings Ratio <sup>1</sup>																	
		17-Year	2/9																
Line	Company	Average (1)	2022 20	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(0)	(7)	(0)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(10)	(17)	(10)
1	ALLETE	0.69	0.69	0.78	0.74	0.71	0.66	0.68	0.66	0.60	0.68	0.72	0.71	0.67	0.80	0.93	0.61	0.53	0.52
2	Alliant Energy	0.61	0.61	0.61	0.62	0.61	0.61	0.63	0.72	0.65	0.59	0.57	0.59	0.62	0.57	0.79	0.55	0.47	0.56
3	Ameren Corp.	0.67	0.58	0.57	0.57	0.57	0.56	0.64	0.64	0.70	0.67	0.76	0.66	0.63	0.56	0.55	0.88	0.85	0.95
4	American Electric Power	0.60	0.61	0.60	0.64	0.66	0.65	0.66	0.54	0.60	0.61	0.61	0.63	0.59	0.66	0.55	0.55	0.55	0.52
5	Avangrid, Inc.	0.90	0.74	0.89	0.94	0.78	0.91	1.03	0.87	N/A									
6	Avista Corp.	0.67	0.90	0.80	0.85	0.52	0.72	0.73	0.64	0.70	0.69	0.66	0.88	0.64	0.61	0.51	0.51	0.83	0.39
7	Black Hills	1.11	0.59	0.61	0.58	0.58	0.56	0.54	0.64	0.57	0.54	0.58	0.75	1.45	0.87	0.61	7.78	0.51	0.60
8	CenterPoint Energy	0.75	0.51	0.70	0.70	0.58	1.51	0.86	1.03	0.92	0.67	0.67	0.60	0.62	0.73	0.75	0.56	0.58	0.45
9	CMS Energy Corp.	0.57	0.63	0.67	0.62	0.64	0.62	0.61	0.63	0.61	0.62	0.61	0.63	0.58	0.50	0.54	0.29	0.31	N/A
10	Consol. Edison	0.69	0.69	0.65	0.78	0.73	0.63	0.67	0.68	0.64	0.70	0.63	0.63	0.67	0.69	0.75	0.70	0.67	0.78
11	Dominion Resources	0.87	0.65	0.79	1.90	1.68	1.03	0.86	0.81	0.81	0.79	0.73	0.77	0.71	0.63	0.66	0.52	0.69	0.58
12	DTE Energy	0.67	0.76	0.95	0.58	0.61	0.58	0.59	0.63	0.64	0.53	0.69	0.62	0.63	0.58	0.65	0.78	0.80	0.85
13	Duke Energy	0.81	0.73	0.79	0.97	0.74	0.88	0.83	0.91	0.79	0.76	0.78	0.82	0.72	0.72	0.83	0.89	0.72	N/A
14	Edison Int'l	0.38	0.63	1.35	1.50	0.62	- 1.93	0.50	0.50	0.42	0.34	0.36	0.29	0.40	0.38	0.38	0.33	0.35	0.34
15	El Paso Electric	0.50	N/A	N/A	N/A	N/A	0.68	0.54	0.51	0.57	0.49	0.48	0.43	0.27	N/A	N/A	N/A	N/A	N/A
16	Entergy Corp.	0.54	0.62	0.56	0.54	0.58	0.61	0.67	0.50	0.57	0.58	0.67	0.55	0.44	0.49	0.48	0.48	0.46	0.40
17	Eversource Energy	0.60	0.62	0.68	0.64	0.62	0.62	0.61	0.60	0.61	0.61	0.59	0.70	0.50	0.49	0.50	0.44	0.49	0.88
18	Evergy, Inc.	0.57	0.66	0.57	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	0.60	0.60	0.88	0.59	0.48	0.67	0.47	0.70	0.49	0.59	0.63	1.09	0.56	0.54	0.49	0.50	0.45	0.47
20	FirstEnergy Corp.	0.80	0.64	0.58	0.84	0.83	1.37	0.53	0.69	0.72	1.69	0.56	1.03	1.17	0.68	0.66	0.50	0.49	0.48
21	Fortis Inc.	0.71	0.80	0.80	0.76	0.69	0.69	0.62	0.82	0.68	0.94	0.77	0.73	0.67	0.69	0.69	0.66	0.64	0.49
22	Great Plains Energy	- 0.82	N/A	N/A	N/A	N/A	N/A	-18.33	0.66	0.73	0.60	0.54	0.63	0.67	0.54	0.81	1.43	0.90	1.02
23	Hawaiian Elec.	0.84	0.65	0.60	0.73	0.64	0.67	0.76	0.54	0.83	0.76	0.77	0.74	0.86	1.02	1.36	1.16	1.12	0.93
24	IDACORP, Inc.	0.50	0.61	0.59	0.58	0.56	0.53	0.53	0.53	0.50	0.46	0.43	0.41	0.36	0.41	0.45	0.55	0.65	0.51
25	NextEra Energy, Inc.	0.56	0.59	0.85	0.67	0.64	0.66	0.60	0.60	0.51	0.52	0.55	0.53	0.45	0.42	0.47	0.44	0.50	0.47
26	NorthWestern Corp	0.68	0.75	0.69	0.78	0.65	0.65	0.63	0.59	0.66	0.54	0.62	0.65	0.57	0.64	0.66	0.75	0.89	0.95
27	OGE Energy	0.58	0.74	0.69	0.76	0.67	0.66	0.66	0.68	0.62	0.48	0.44	0.45	0.44	0.49	0.54	0.56	0.52	0.55
28	Otter Tail Corp.	1.08	0.28	0.37	0.63	0.65	0.65	0.69	0.78	0.79	0.78	0.87	1.13	2.64	3.13	1.68	1.09	0.66	0.68
29	Pinnacle West Capital	0.69	0.86	0.61	0.66	0.64	0.63	0.61	0.65	0.62	0.65	0.61	0.76	0.70	0.68	0.93	0.99	0.71	0.64
30	PNM Resources	0.89	0.54	0.43	0.58	0.52	0.65	0.52	0.53	0.49	0.52	0.48	0.44	0.46	0.57	0.86	5.50	1.20	0.50
31	Portland General	0.62	0.64	0.63	0.92	0.64	0.60	0.59	0.58	0.58	0.51	0.62	0.57	0.54	0.62	0.77	0.70	0.40	0.59
32	PPL Corp.	0.80	0.78	3.13	0.81	0.70	0.64	0.75	0.54	0.63	0.63	0.62	0.55	0.54	0.61	1.16	0.55	0.46	0.48
33	Public Serv. Enterprise	0.54	0.62	0.80	0.54	0.48	0.65	0.61	0.58	0.47	0.49	0.59	0.58	0.44	0.45	0.43	0.44	0.45	0.62
34	SCANA Corp.	0.61	N/A	N/A	N/A	N/A	N/A	0.58	0.55	0.57	0.55	0.60	0.63	0.65	0.64	0.66	0.62	0.64	0.65
35	Sempra Energy	0.55	0.53	1.10	0.64	0.65	0.65	0.71	0.71	0.54	0.57	0.60	0.55	0.43	0.39	0.33	0.31	0.29	0.28
36	Southern Co.	0.75	0.76	0.77	0.78	0.78	0.79	0.72	0.79	0.76	0.75	0.75	0.73	0.73	0.76	0.75	0.74	0.70	0.73
37	Vectren Corp.	0.75	N/A	N/A	N/A	N/A	N/A	0.66	0.64	0.64	0.72	0.86	0.72	0.80	0.84	0.75	0.80	0.69	0.85
38	WEC Energy Group	0.55	0.66	0.66	0.67	0.66	0.66	0.66	0.67	0.74	0.60	0.58	0.51	0.48	0.42	0.42	0.36	0.35	0.35
39	Westar Energy	0.68	N/A	N/A	N/A	N/A	N/A	0.70	0.63	0.69	0.60	0.60	0.61	0.72	0.69	0.94	0.89	0.59	0.52
40	Xcel Energy Inc.	0.62	0.62	0.62	0.62	0.61	0.62	0.63	0.62	0.61	0.59	0.58	0.58	0.60	0.64	0.65	0.64	0.67	0.65
41	Average	0.66	0.65	0.78	0.76	0.67	0.64	0.17	0.66	0.64	0.64	0.62	0.66	0.67	0.68	0.70	0.97	0.62	0.61
42	Median	0.63	0.64	0.68	0.67	0.64	0.65	0.63	0.64	0.63	0.60	0.61	0.63	0.62	0.62	0.66	0.61	0.59	0.56
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- Sources: <sup>1</sup> Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021. Data for the year 2020 was retrieved from Value Line Investment Surveys, March 12, April 23, and May 14, 2021. Data for the year 2021 was retrieved from Value Line Investment Surveys, March 11, April 22, and May 13, 2022. <sup>2</sup> The Value Line Investment Survey, September 9, October 21, and November 11, 2022.

<sup>b</sup> Based on the projected 2022 Dividends Declared per share and Earnings per share, published in The Value Line Investment Survey, September 9, October 21, and November 11, 2022.
#### **Electric Utilities** (Valuation Metrics)

									Cash Flo	ow to Capit	al Spendir	ng Ratio'							
		17-Year																	
Line	Company	Average	2022 2/a	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1	ALLETE	0.80	2.16	0.55	0.55	0.63	1.22	1.61	1.32	1.16	0.45	0.67	0.49	0.77	0.63	0.39	0.46	0.65	1.23
2	Alliant Energy	0.80	0.93	0.95	N/A	N/A	N/A	0.49	N/A	0.81	0.91	1.01	0.57	0.91	0.67	0.39	0.57	1.04	1.27
3	Ameren Corp.	0.88	0.74	0.62	0.62	0.79	0.80	0.75	0.75	0.75	0.75	0.89	1.07	1.31	1.36	0.81	0.66	0.97	1.21
4	American Electric Power	0.87	0.75	0.81	0.81	0.75	0.68	0.67	0.85	0.85	0.87	0.91	1.07	1.19	1.24	1.02	0.70	0.77	0.75
5	Avangrid, Inc.	0.70	0.61	0.56	0.56	0.62	0.85	0.57	0.86	0.89	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	0.90	0.83	0.88	0.88	0.92	0.78	0.77	0.84	0.76	0.80	0.86	0.80	0.90	0.99	1.15	0.97	0.73	1.36
7	Black Hills	0.65	0.89	0.61	0.61	0.53	0.87	1.17	0.71	0.64	0.70	0.74	0.71	0.40	0.41	0.61	0.35	0.76	0.55
8	CenterPoint Energy	1.03	0.60	0.73	0.73	0.83	0.98	1.22	1.12	0.92	1.20	1.18	1.37	1.12	0.88	0.99	1.16	0.98	1.08
9	CMS Energy Corp.	0.87	0.78	0.78	0.78	0.79	0.77	0.89	0.81	0.81	0.74	0.82	0.82	1.05	1.13	0.97	1.11	0.55	1.07
10	Consol. Edison	0.82	0.81	0.83	0.83	0.87	0.82	0.76	0.65	0.76	0.88	0.86	1.01	0.98	0.90	0.75	0.70	0.81	0.74
11	Dominion Resources	0.78	0.75	0.73	0.73	0.96	1.04	0.81	0.65	0.64	0.63	0.77	0.73	0.79	0.87	0.75	0.83	0.74	0.85
12	DIE Energy	1.00	0.72	0.74	0.74	0.83	0.84	0.94	0.93	0.84	1.02	0.96	0.93	1.09	1.51	1.50	0.98	1.07	1.03
13	Duke Energy	0.89	0.83	0.85	0.85	0.80	0.81	0.87	0.82	0.96	1.20	1.09	0.87	0.89	0.78	0.77	0.71	1.09	0.97
14	Edison Int'l	0.74	0.74	0.55	0.55	0.68	0.34	0.94	0.91	0.80	0.83	0.80	0.76	0.61	0.60	0.79	0.93	0.88	0.93
15	El Paso Electric	0.87	N/A	0.83	N/A	N/A	0.86	1.04	0.85	0.67	0.69	0.79	0.85	1.03	0.98	0.68	0.78	0.84	1.26
16	Entergy Corp.	0.98	0.98	0.74	0.74	0.79	0.73	0.76	1.08	1.05	1.19	1.03	0.88	1.15	1.24	1.02	0.93	1.14	1.13
17	Eversource Energy	0.85	0.72	0.80	0.80	0.75	0.83	0.79	0.87	0.91	0.90	1.13	0.86	0.80	1.05	0.96	0.77	0.68	0.67
18	Evergy, Inc.	1.03	0.94	1.03	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	1.24	0.96	1.09	1.09	1.20	1.05	1.06	0.76	0.82	0.93	1.07	0.98	1.19	1.66	1.66	1.61	1.84	1.86
20	FirstEnergy Corp.	1.02	0.87	0.83	0.83	0.80	0.76	1.03	0.94	0.93	0.54	0.91	0.85	1.05	1.32	1.22	0.95	1.56	1.75
21	Fortis Inc.	0.68	0.75	0.65	0.65	0.68	0.72	0.76	0.76	0.65	0.60	0.77	0.72	0.66	0.68	0.63	0.66	0.57	0.63
22	Great Plains Energy	0.79	N/A	N/A	N/A	N/A	N/A	0.78	1.17	0.90	0.79	0.91	0.86	1.03	0.86	0.50	0.35	0.69	0.64
23	Hawaiian Elec.	1.09	1.59	1.27	1.27	1.08	0.85	0.81	1.37	0.98	1.03	0.92	0.99	1.30	1.50	0.79	0.87	1.15	1.23
24	IDACORP, Inc.	1.12	0.82	1.33	1.33	1.46	1.42	1.33	1.16	1.15	1.21	1.34	1.24	0.86	0.78	0.96	0.82	0.64	0.89
25	NextEra Energy, Inc.	0.62	0.64	0.58	0.58	0.67	0.56	0.53	0.63	0.71	0.77	0.68	0.39	0.58	0.69	0.60	0.63	0.56	0.73
26	NorthWestern Corp	1.04	0.67	0.84	0.84	1.13	1.23	1.21	1.13	1.01	0.93	0.92	0.88	1.04	0.76	0.88	1.27	1.23	1.29
27	OGE Energy	0.91	0.99	1.24	1.24	1.27	1.30	0.81	1.00	1.18	1.19	0.69	0.63	0.51	0.69	0.61	0.60	0.79	0.84
28	Otter Tail Corp.	0.84	1.78	0.48	0.48	0.80	1.49	1.10	0.84	0.74	0.70	0.67	0.85	1.16	1.09	0.56	0.37	0.65	1.44
29	Pinnacle West Capital	0.95	0.79	0.91	0.91	1.03	1.06	0.76	0.81	0.92	0.97	0.87	0.96	0.91	0.97	1.06	0.86	0.99	1.28
30	PNM Resources	0.71	0.64	0.72	0.72	0.78	0.82	0.84	0.57	0.57	0.63	0.80	0.87	0.77	0.82	0.70	0.44	0.43	0.89
31	Portland General	0.84	0.99	0.78	0.78	1.03	1.00	1.07	0.88	0.80	0.47	0.59	1.28	1.25	0.81	0.44	0.77	0.72	0.78
32	PPL Corp.	0.96	1.24	0.90	0.90	0.98	0.93	0.82	1.00	0.72	0.75	0.69	0.91	1.07	1.11	1.07	1.25	1.13	1.18
33	Public Serv. Enterprise	1.12	1.03	1.13	1.13	1.08	0.70	0.64	0.61	0.80	1.04	0.93	0.96	1.30	1.23	1.41	1.34	1.64	1.94
34	SCANA Corp.	0.86	N/A	N/A	N/A	N/A	N/A	0.86	0.66	0.83	0.90	0.83	0.77	0.88	0.86	0.76	0.76	0.92	1.26
35	Sempra Energy	0.81	0.94	0.77	0.77	0.88	0.80	0.67	0.56	0.81	0.74	0.84	0.73	0.72	0.90	1.02	0.87	0.90	0.93
36	Southern Co.	0.89	0.97	0.99	0.99	0.88	0.83	0.90	0.77	0.88	0.80	0.86	0.93	0.94	0.93	0.78	0.87	0.91	1.00
37	Vectren Corp.	1.00	N/A	N/A	N/A	N/A	N/A	0.82	0.87	0.95	0.98	1.05	1.13	1.20	1.31	0.83	0.82	0.98	1.00
38	WEC Energy Group	0.98	0.87	0.97	0.97	0.91	0.90	0.92	1.20	0.97	1.37	1.42	1.30	1.02	0.97	0.89	0.61	0.56	0.69
39	Westar Energy	0.72	N/A	N/A	N/A	N/A	N/A	0.91	0.63	0.86	0.70	0.72	0.67	0.71	0.88	0.68	0.36	0.48	1.00
40	Xcel Energy Inc.	0.75	0.80	0.66	0.66	0.78	0.77	0.84	0.79	0.63	0.68	0.60	0.76	0.83	0.76	0.89	0.75	0.71	0.90
41	Average	0.89	0.92	0.83	0.82	0.88	0.89	0.89	0.87	0.85	0.86	0.88	0.88	0.95	0.97	0.86	0.80	0.80	1.06
42	Median	0.83	0.82	0.81	0.78	0.83	0.84	0.84	0.84	0.83	0.82	0.86	0.87	0.96	0.90	0.80	0.77	0.82	1.00
74	mounti	0.00	0.00	0.01	0.70	0.00	0.04	0.04	0.04	0.00	0.02	0.00	0.07	0.50	0.00	0.00	0.11	0.02	1.00

- Sources: <sup>1</sup> Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021. Data for the year 2020 was retrieved from Value Line Investment Surveys, March 12, April 23, and May 14, 2021. Data for the year 2021 was retrieved from Value Line Investment Surveys, March 11, April 22, and May 13, 2022. <sup>2</sup> The Value Line Investment Survey, September 9, October 21, and November 11, 2022.

- <sup>6</sup> Based on the projected Cash Flow per share and Capital Spending per share published in The Value Line Investment Survey, September 9, October 21, and November 11, 2022.

#### **Natural Gas Utilities** (Valuation Metrics)

		47 V							Pric	e to Earnir	igs (P/E) Ra	atio '							
<u>Line</u>	<u>Company</u>	17-Year <u>Average</u> (1)	<u>2022 <sup>2</sup></u> (2)	<u>2021</u> (3)	<u>2020</u> (4)	<u>2019</u> (5)	<u>2018</u> (6)	<u>2017</u> (7)	<u>2016</u> (8)	<u>2015</u> (9)	<u>2014</u> (10)	<u>2013</u> (11)	<u>2012</u> (12)	<u>2011</u> (13)	<u>2010</u> (14)	<u>2009</u> (15)	<u>2008</u> (16)	<u>2007</u> (17)	<u>2006</u> (18)
1 2	Atmos Energy Chesapeake Utilities	17.37 18.86	18.50 22.70	19.30 26.30	22.30 21.57	23.22 24.74	21.75 22.94	22.04 27.84	20.80 21.77	17.50 19.15	16.09 17.70	15.87 15.62	15.93 14.81	14.36 14.16	13.21 12.21	12.54 14.20	13.59 14.15	15.87 16.72	13.52 17.85
4	New Jersey Resources	17.29	16.50	19.50	18.67	24.33	10.04	ZZ.30	21.20	37 34	22 74	18.80	17.87	10.70	14.90	14.93	12.27	18.82	10.13
5	Northwest Nat. Gas	20.91	17.60	17.60	24.96	30.85	26.63	NMF	26.92	23.69	20.69	19.38	21.08	19.02	16.97	15.17	18.08	16.74	15.85
6	ONE Gas Inc.	21.56	19.80	18.60	21.71	25.27	23.06	23.47	22.74	19.79	17.83	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	South Jersey Inds.	18.55	19.40	14.30	14.89	28.28	22.64	27.92	21.71	17.95	18.03	18.90	16.94	18.48	16.81	14.96	15.90	17.18	11.86
8	Southwest Gas	17.57	14.50	15.30	16.80	21.30	20.61	22.21	21.64	19.35	17.86	15.76	15.00	15.69	13.97	12.20	20.27	17.26	15.94
10	UGI Corp.	15.75	10.80	12.90	13.80	23.40	17.77	20.84	19.33	17.71	15.81	15.44	16.38	15.03	10.86	10.30	13.30	15.14	13.00
11	WGL Holdings Inc.	16.71	N/A	N/A	N/A	N/A	N/A	25.40	20.05	16.99	15.15	18.25	15.27	16.97	15.11	12.58	13.66	15.60	15.46
12 13	Average Median	18.30 17.40	17.28 17.40	18.03 18.10	22.35 20.12	24.55 23.87	20.71 21.18	23.55 22.38	21.73 21.64	20.23 17.95	17.58 17.83	17.53 17.11	16.46 16.15	16.29 16.22	14.32 14.48	13.46 13.80	14.76 13.91	16.91 16.73	15.33 15.66
		17-Year							Market Pri	ce to Cash	Flow (MP/	/CF) Ratio <sup>1</sup>							
<u>Line</u>	<u>Company</u>	Average (1)	<u>2022 <sup>2</sup></u> (2)	<u>2021</u> (3)	<u>2020</u> (4)	<u>2019</u> (5)	<u>2018</u> (6)	<u>2017</u> (7)	<u>2016</u> (8)	<u>2015</u> (9)	<u>2014</u> (10)	<u>2013</u> (11)	<u>2012</u> (12)	<u>2011</u> (13)	<u>2010</u> (14)	<u>2009</u> (15)	<u>2008</u> (16)	<u>2007</u> (17)	<u>2006</u> (18)
14	Atmos Energy	9.04	11.93	10.99	13.11	13.35	12.02	11.99	11.36	9.30	8.79	7.72	7.02	6.87	6.15	5.76	6.48	7.44	6.36
16	New Jersev Resources	12.00	11.53	14.20	11.10	15.98	11.44	14.45	13.94	11.71	8.95	11.29	12.29	12.71	11.32	11.34	9.15	13.76	11.01
17	NiSource Inc.	7.87	8.17	7.89	7.83	8.81	8.91	12.11	8.56	10.38	10.56	8.71	7.81	6.81	5.09	4.06	4.87	6.69	6.87
18	Northwest Nat. Gas	12.66	8.70	8.57	10.10	13.13	11.75	59.72	11.57	9.46	8.84	8.61	9.48	9.08	8.94	8.26	8.75	8.54	7.83
19	ONE Gas Inc.	10.64	10.01	9.32	10.85	12.75	11.85	11.89	11.10	9.19	8.16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20	South Jersey Inds.	10.57	10.81	9.26	7.54	12.38	10.72	12.33	10.88	10.70	10.57	11.57 5.94	10.95	11.98	10.78	9.57	10.38	11.23 5.42	8.32 5.28
22	Spire Inc.	9.80	8.04	7.55	14.01	11.27	9.60	10.39	10.32	8.47	12.03	13.76	8.80	8.08	8.12	8.58	8.95	8.46	8.46
23	UGI Corp.	8.04	7.31	9.56	7.39	12.95	9.01	10.09	9.02	8.47	7.49	6.55	6.30	7.51	6.02	5.74	7.11	7.92	7.48
24	WGL Holdings Inc.	9.17	N/A	N/A	N/A	N/A	N/A	12.92	11.36	9.59	8.46	9.83	9.03	9.52	8.34	7.17	7.68	8.39	7.81
25 26	Average Median	9.61 8.84	9.87 9.35	9.58 9.29	10.13 10.47	12.37 12.85	10.69 11.08	16.25 12.11	10.69 11.10	9.45 9.46	9.04 8.84	9.21 8.66	8.47 8.31	8.55 7.80	7.60 7.24	7.38 7.71	7.62 7.78	8.64 8.42	7.88 7.82
									Marilard Dai		V-1 (MD		1						
		17-Year							Market Pri	CE TO BOOK	value (MP	/BV) Ratio							
<u>Line</u>	<u>Company</u>	Average (1)	(2)	(3)	<u>2020</u> (4)	<u>2019</u> (5)	<u>2018</u> (6)	<u>2017</u> (7)	<u>2016</u> (8)	<u>2015</u> (9)	<u>2014</u> (10)	<u>2013</u> (11)	<u>2012</u> (12)	<u>2011</u> (13)	<u>2010</u> (14)	<u>2009</u> (15)	<u>2008</u> (16)	<u>2007</u> (17)	<u>2006</u> (18)
27	Atmos Energy	1.58	1.66	1.59	1.95	2.10	2.03	2.16	2.11	1.72	1.55	1.39	1.28	1.30	1.18	1.05	1.20	1.40	1.34
20	New Jersey Resources	2.03	2.00	2.77	2.27	2.09	2.50	2.51	2.20	2.19	2.12	2.05	2.33	2.31	2.09	2.16	1.04	2 17	2.01
30	NiSource Inc.	1.53	1.92	1.86	1.95	2.09	1.92	1.96	1.84	1.95	1.94	1.58	1.37	1.15	0.92	0.69	0.94	1.16	1.19
31	Northwest Nat. Gas	1.87	1.56	1.45	1.98	2.38	2.35	2.41	1.92	1.63	1.59	1.56	1.72	1.70	1.78	1.73	1.96	2.05	1.69
32	ONE Gas Inc.	1.69	1.72	1.57	1.90	2.20	1.93	1.89	1.67	1.26	1.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
33	South Jersey Inds.	2.05	1.62	1.54	1.52	2.06	2.11	2.29	1.79	1.77	2.07	2.27	2.21	2.59	2.38	1.95	2.08	2.21	1.93
34 35	Spire Inc	1.55	1.48	1.32	1.49	1.84	1.79	2.13	1.90	1.08	1.08	1.01	1.51	1.43	1.24	0.97	1.20	1.40	1.46
36	UGI Corp.	2.03	1.43	1.64	1.87	2.92	2.30	2.62	2.41	2.29	1.97	1.69	1.45	1.40	1.55	1.66	2.01	2.16	2.21
37	WGL Holdings Inc.	1.81	N/A	N/A	N/A	N/A	N/A	2.69	2.45	2.15	1.69	1.71	1.66	1.63	1.50	1.45	1.59	1.64	1.59
38 39	Average Median	1.82 1.69	1.78 1.64	1.75 1.58	1.85 1.90	2.28	2.12	2.27	2.05	1.85 1.77	1.74 1.69	1.70 1.65	1.67 1.58	1.69 1.62	1.54 1.45	1.47 1.56	1.62 1.67	1.78 1.75	1.70 1.70

Sources:

Sources: <sup>1</sup> Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021. Data for the year 2020 was retrieved from Value Line Investment Surveys, February 26, 2021. Data for the year 2021 was retrieved from Value Line Investment Surveys, February 25, 2022. <sup>2</sup> The Value Line Investment Survey, November 25, 2022. Notes: <sup>a</sup> Based on the average of the high and low price for year and the projected Cash Flow per share, published in The Value Line Investment Survey. <sup>b</sup> Based on the average of the high and low price for the year and the projected Book Value per share, published in The Value Line Investment Survey.

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#### Natural Gas Utilities (Valuation Metrics)

										Dividen	d Yield <sup>1</sup>								
		17-Year																	
<u>Line</u>	Company	Average (1)	<u>2022 <sup>2/a</sup></u> (2)	<u>2021</u> (3)	<u>2020</u> (4)	<u>2019</u> (5)	<u>2018</u> (6)	<u>2017</u> (7)	<u>2016</u> (8)	<u>2015</u> (9)	<u>2014</u> (10)	<u>2013</u> (11)	<u>2012</u> (12)	<u>2011</u> (13)	<u>2010</u> (14)	<u>2009</u> (15)	<u>2008</u> (16)	<u>2007</u> (17)	<u>2006</u> (18)
1	Atmos Energy	3.45%	2.46%	2.63%	2.19%	2.08%	2.23%	2.27%	2.39%	2.88%	3.11%	3.53%	4.13%	4.19%	4.70%	5.34%	4.78%	4.16%	4.66%
2	Chesapeake Utilities	2.75%	1.61%	1.50%	1.86%	1.68%	1.76%	1.69%	1.91%	2.18%	2.44%	2.87%	3.25%	3.36%	3.91%	4.09%	4.10%	3.62%	3.76%
3	New Jersey Resources	3.21%	3.40%	3.50%	3.47%	2.50%	2.61%	2.69%	2.86%	3.14%	3.50%	3.71%	3.38%	3.33%	3.69%	3.46%	3.35%	3.02%	3.19%
4	NiSource Inc.	3.99%	3.33%	3.60%	3.41%	2.86%	3.10%	2.79%	2.76%	3.53%	2.69%	3.30%	3.84%	4.53%	5.66%	7.64%	5.69%	4.29%	4.21%
5	Northwest Nat. Gas	3.56%	3.86%	3.90%	3.33%	2.81%	3.05%	3.02%	3.28%	4.01%	4.14%	4.22%	3.83%	3.85%	3.63%	3.73%	3.27%	3.12%	3.73%
6	ONE Gas Inc.	2.54%	3.08%	3.21%	2.70%	2.25%	2.46%	2.37%	2.32%	2,71%	2.28%	N/A							
7	South Jersey Inds.	3.48%	4.28%	4.88%	4.76%	3.66%	3.62%	3.20%	3.64%	3.95%	3.40%	3.14%	3.22%	2.81%	3.00%	3.43%	3.08%	2.81%	3.15%
8	Southwest Gas	2.92%	3.14%	3.65%	3.28%	2.60%	2.74%	2.46%	2.62%	2.87%	2.72%	2.69%	2.75%	2.78%	3.15%	4.01%	3.19%	2.56%	2.60%
9	Spire Inc.	3.78%	3.89%	3.79%	3.38%	2.95%	3.10%	3.09%	3.08%	3.53%	3.78%	3.96%	4.11%	4.31%	4.70%	3.91%	3.94%	4.43%	4.34%
10	UGI Com	2.86%	3.61%	3 25%	3.56%	2 16%	2.09%	2 01%	2 35%	2 50%	2 61%	3.01%	3.68%	3.30%	3 48%	3 23%	2 85%	2.69%	2 96%
11	WGL Holdings Inc.	3.91%	N/A	N/A	N/A	N/A	N/A	2.56%	2.94%	3.41%	4.24%	3.94%	3.89%	4.06%	4.37%	4.62%	4.22%	4.19%	4.48%
12	Average	3.34%	3.27%	3.39%	3.19%	2.56%	2.68%	2.56%	2.74%	3.16%	3.17%	3.44%	3.61%	3.65%	4.03%	4.35%	3.85%	3.49%	3.71%
13	Median	3.37%	3.37%	3.55%	3.35%	2.55%	2.68%	2.56%	2.76%	3.14%	3.11%	3.42%	3.75%	3.60%	3.80%	3.96%	3.65%	3.37%	3.75%
14	20-Yr Treasury Yields <sup>3</sup>	3.19%	3.30%	1.98%	1.35%	2.40%	3.02%	2.65%	2.23%	2.55%	3.07%	3.12%	2.54%	3.62%	4.03%	4.11%	4.36%	4.91%	4.99%
15	20-Yr TIPS <sup>3</sup>	1.03%	0.64%	-0.43%	-0.30%	0.60%	0.94%	0.75%	0.66%	0.78%	0.87%	0.75%	0.21%	1.19%	1.73%	2.21%	2.19%	2.36%	2.31%
16	Implied Inflation <sup>b</sup>	2.14%	2.64%	2.42%	1.66%	1.79%	2.06%	1.89%	1.56%	1.75%	2.19%	2.35%	2.33%	2.40%	2.26%	1.85%	2.13%	2.49%	2.62%
17	Real Dividend Yield <sup>c</sup>	1.18%	0.61%	0.95%	1.51%	0.75%	0.60%	0.65%	1.17%	1.38%	0.96%	1.06%	1.25%	1.22%	1.73%	2.45%	1.68%	0.97%	1.06%
	Utility																		
18	Nominal "A" Rated Yield <sup>4</sup>	4.65%	4.74%	3.10%	3.05%	3.77%	4.25%	4.00%	3.93%	4.12%	4.28%	4.48%	4.13%	5.04%	5.46%	6.04%	6.53%	6.07%	6.07%
19	Real "A" Rated Yield	2.46%	2.05%	0.67%	1.37%	1.94%	2.14%	2.07%	2.34%	2.33%	2.04%	2.08%	1.76%	2.58%	3.13%	4.11%	4.31%	3.49%	3.36%
	Spreads (Utility Bond - Stock)																		
20	Nominal <sup>d</sup>	1.31%	1.47%	-0.29%	-0.14%	1.21%	1.57%	1.44%	1.19%	0.96%	1.11%	1.04%	0.52%	1.39%	1.43%	1.69%	2.68%	2.59%	2.36%
21	Real <sup>e</sup>	1.28%	1.44%	-0.28%	-0.14%	1.19%	1.54%	1.41%	1.17%	0.94%	1.08%	1.01%	0.51%	1.36%	1.40%	1.66%	2.62%	2.52%	2.30%
	Spreads (Treasury Bond - Stock)																		
22	Nominal	-0.15%	0.03%	-1.41%	-1.84%	-0.15%	0.34%	0.09%	-0.52%	-0.61%	-0.10%	-0.32%	-1.06%	-0.03%	0.00%	-0.24%	0.51%	1.42%	1.28%
23	Real <sup>9</sup>	-0.15%	0.03%	-1.38%	-1.81%	-0.15%	0.34%	0.09%	-0.51%	-0.60%	-0.10%	-0.31%	-1.04%	-0.03%	0.00%	-0.23%	0.50%	1.39%	1.25%
_																			



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Sources:
<sup>1</sup> Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.

Data for the year 2020 was retrieved from Value Line Investment Surveys, February 26, 2021.

Data for the year 2021 was retrieved from Value Line Investment Surveys, February 25, 2022.

<sup>&</sup>lt;sup>2</sup> The Value Line Investment Survey, November 25, 2022.

<sup>&</sup>lt;sup>3</sup> St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org.
<sup>4</sup> www.moodys.com, Bond Yields and Key Indicators, through December 31, 2022. Notes:
<sup>a</sup> Based on the average of the high and low price for the year and the projected Division of the projected Division.

Based on the average of the high and low price for the year and the projected Dividends Declared per share published in the Value Line Investment Survey.

<sup>&</sup>lt;sup>b</sup> Line 16 = (1 + Line 14) / (1 + Line 15) - 1. <sup>c</sup> Line 17 = (1 + Line 12) / (1 +Line 16) - 1.

The spread being measured here is the nominal A-rated utility bond yield over the average nominal utility dividend yield; (Line 18 - Line 12).

The spread being measured here is the real A-rated utility bond yield over the average real utility dividend yield; Line 13 - Line 17).
 The spread being measured here is the nominal 20-Year Treasury yield over the average nominal utility dividend yield; (Line 14 - Line 12).
 The spread being measured here is the real 20-Year TIPS yield over the average real utility dividend yield; Line 15 - Line 17).

#### Natural Gas Utilities (Valuation Metrics)

											Dividend p	er Share <sup>1</sup>									
		17-Year																		2018	2017
Line	Company	Average	2022 <sup>2</sup>	2021	2020	<u>2019</u>	<u>2018</u>	2017	2016	<u>2015</u>	2014	2013	<u>2012</u>	<u>2011</u>	<u>2010</u>	2009	2008	2007	2006	CAGR	CAGR
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1	Atmos Energy	1.52	2.72	2.30	1.48	1.40	1.94	1.80	1.68	1.56	1.48	1.40	1.38	1.36	1.34	1.32	1.30	1.28	1.26	2.89%	3.30%
2	Chesapeake Utilities	1.05	2.03	1.69	1.07	1.01	1.39	1.26	1.19	1.12	1.07	1.01	0.96	0.91	0.87	0.83	0.81	0.78	0.77	3.97%	4.58%
3	New Jersey Resources	0.81	1.45	1.27	0.86	0.81	1.11	1.04	0.98	0.93	0.86	0.81	0.77	0.72	0.68	0.62	0.56	0.51	0.48	5.70%	7.28%
4	NiSource Inc.	0.89	0.94	0.84	1.02	0.98	0.78	0.70	0.64	0.83	1.02	0.98	0.94	0.92	0.92	0.92	0.92	0.92	0.92	-1.08%	-2.45%
5	Northwest Nat. Gas	1.75	1.93	1.91	1.85	1.83	1.89	1.88	1.87	1.86	1.85	1.83	1.79	1.75	1.68	1.60	1.52	1.44	1.39	2.05%	2.78%
6	ONE Gas Inc.	1.42	2.48	2.16	0.84	N/A	1.84	1.68	1.40	1.20	0.84	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	11.58%	25.99%
7	South Jersey Inds.	0.85	1.25	1.19	0.96	0.90	1.13	1.10	1.06	1.02	0.96	0.90	0.83	0.75	0.68	0.61	0.56	0.51	0.46	6.11%	8.25%
8	Southwest Gas	1.38	2.48	2.26	1.46	1.32	2.08	1.98	1.80	1.62	1.46	1.32	1.18	1.06	1.00	0.95	0.90	0.86	0.82	6.33%	8.34%
9	Spire Inc.	1.77	2.74	2.49	1.76	1.70	2.25	2.10	1.96	1.84	1.76	1.70	1.66	1.61	1.57	1.53	1.49	1.45	1.40	3.18%	3.75%
10	UGI Corp.	0.76	1.41	1.32	0.79	0.74	1.02	0.96	0.93	0.89	0.79	0.74	0.71	0.68	0.60	0.52	0.50	0.48	0.46	5.47%	7.02%
11	WGL Holdings Inc.	1.63	N/A	N/A	1.72	1.66	N/A	2.02	1.93	1.83	1.72	1.66	1.59	1.55	1.50	1.47	1.41	1.37	1.35	N/A	3.77%
12	Average	1.28	1.94	1.74	1.25	1.24	1.54	1.50	1.40	1.34	1.25	1.24	1.18	1.13	1.08	1.04	1.00	0.96	0.93	4.62%	6.60%
13	Industry Average Growth	5.24%	11.47%	38.90%	1.58%	-19.95%	2.76%	6.99%	5.03%	6.50%	1.58%	4.67%	4.35%	4.34%	4.47%	4.20%	3.83%	3.13%			

Sources:

<sup>1</sup> Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.

Data for the year 2020 was retrieved from Value Line Investment Surveys, February 26, 2021.

Data for the year 2021 was retrieved from Value Line Investment Surveys, February 25, 2022.

<sup>2</sup> The Value Line Investment Survey, November 25, 2022.

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#### Natural Gas Utilities (Valuation Metrics)

										Earnings p	per Share <sup>1</sup>								
		17-Year																	
Line	<u>Company</u>	Average	2022 <sup>2</sup>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>	2009	2008	<u>2007</u>	<u>2006</u>
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1	Atmos Energy	3.01	5.60	5.12	4.72	4.35	4.00	3.60	3.38	3.09	2.96	2.50	2.10	2.26	2.16	1.97	2.00	1.94	2.00
2	Chesapeake Utilities	2.50	4.75	4.70	4.21	3.72	3.45	2.68	2.86	2.68	2.47	2.26	1.99	1.91	1.82	1.43	1.39	1.29	1.15
3	New Jersey Resources	1.60	2.40	2.16	2.07	1.96	2.72	1.73	1.61	1.78	2.08	1.37	1.36	1.29	1.23	1.20	1.35	0.78	0.93
4	NiSource Inc.	1.16	1.45	1.35	1.32	1.31	1.30	0.39	1.00	0.63	1.67	1.57	1.37	1.05	1.06	0.84	1.34	1.14	1.14
5	Northwest Nat. Gas	2.11	2.60	2.50	2.30	2.19	2.33	-1.94	2.12	1.96	2.16	2.24	2.22	2.39	2.73	2.83	2.57	2.76	2.35
6	ONE Gas Inc.	3.03	4.00	3.85	3.68	3.51	3.25	3.02	2.65	2.24	2.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	South Jersey Inds.	1.36	1.70	1.65	1.68	1.12	1.38	1.23	1.34	1.44	1.57	1.52	1.52	1.45	1.35	1.19	1.14	1.05	1.23
8	Southwest Gas	2.89	3.50	3.80	4.14	3.94	3.68	3.62	3.18	2.92	3.01	3.11	2.86	2.43	2.27	1.94	1.39	1.95	1.98
9	Spire Inc.	2.92	3.95	4.96	1.44	3.52	4.33	3.43	3.24	3.16	2.35	2.02	2.79	2.86	2.43	2.92	2.64	2.31	2.37
10	UGI Corp.	1.86	2.90	2.96	2.67	2.28	2.74	2.29	2.05	2.01	1.92	1.59	1.17	1.37	1.59	1.57	1.33	1.18	1.10
11	WGL Holdings Inc.	2.56	N/A	N/A	N/A	N/A	N/A	3.11	3.27	3.16	2.68	2.31	2.68	2.25	2.27	2.53	2.44	2.09	1.94
12	Average	2.29	3.29	3.31	2.82	2.79	2.92	2.11	2.43	2.28	2.27	2.05	2.01	1.93	1.89	1.84	1.76	1.65	1.62
13	Industry Average Growth	5.02%	-0.61%	17.07%	1.18%	-4.39%	38.59%	-13.26%	6.50%	0.54%	10.67%	2.13%	4.13%	1.87%	2.61%	4.79%	6.67%	1.82%	

Sources:

Data for the year 2020 was retrieved from Value Line Investment Surveys, February 26, 2021.

Data for the year 2021 was retrieved from Value Line Investment Surveys, February 25, 2022.

<sup>2</sup> The Value Line Investment Survey, November 25, 2022.

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<sup>&</sup>lt;sup>1</sup> Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.

## Natural Gas Utilities (Valuation Metrics)

			Ca	ash Flow /	Capital Spo	ending	
							3 - 5 yr <sup>3</sup>
Line	<u>Company</u>	<b>2019<sup>1</sup></b>	<b>2020</b> <sup>1</sup>	2021 <sup>2</sup>	<b>2022<sup>3</sup></b>	<b>2023</b> <sup>4</sup>	<b>Projection</b>
		(1)	(2)	(3)	(4)	(5)	(5)
1	Atmos Energy	0.53x	0.53x	0.53x	0.52x	0.55x	0.66x
2	Chesapeake Utilities	0.66x	0.64x	0.82x	0.84x	0.90x	0.93x
3	New Jersey Resources	1.41x	0.65x	0.72x	0.68x	0.76x	0.50x
4	NiSource Inc.	0.66x	0.65x	0.69x	0.73x	0.48x	0.59x
5	Northwest Nat. Gas	0.77x	0.75x	0.61x	0.70x	0.81x	0.76x
6	ONE Gas Inc.	0.78x	0.88x	0.86x	0.89x	0.87x	1.04x
7	South Jersey Inds.	0.48x	0.47x	0.49x	0.51x	0.59x	0.65x
8	Southwest Gas	0.62x	0.53x	0.61x	0.80x	0.92x	0.69x
9	Spire Inc.	0.65x	0.65x	0.70x	0.71x	0.70x	0.91x
10	UGI Corp.	1.33x	1.54x	1.66x	1.55x	1.56x	1.96x
11	Average	0.79x	0.73x	0.77x	0.79x	0.81x	0.87x
12	Median	0.66x	0.65x	0.69x	0.72x	0.78x	0.73x

Sources:

<sup>3</sup> The Value Line Investment Survey, February 25, 2022.

<sup>4</sup> The Value Line Investment Survey, November 25, 2022.

Notes:

Based on the projected Cash Flow per share and Capital Spending per share.

Exhibit No. 402 Case No. VEO-W-22-02 Gorman, Micron Technology, Inc. Page 15 of 16

<sup>&</sup>lt;sup>1</sup> The Value Line Investment Survey, February 28, 2020.

<sup>&</sup>lt;sup>2</sup> The Value Line Investment Survey, February 26, 2021.

#### **Natural Gas Utilities** (Valuation Metrics)

									Percer	nt Dividenc	is to Book	Value1							
<u>Line</u>	Company	17-Year <u>Average</u> (1)	<u>2022 <sup>2/a</sup></u> (2)	<u>2021</u> (3)	<u>2020</u> (4)	<u>2019</u> (5)	<u>2018</u> (6)	<u>2017</u> (7)	<u>2016</u> (8)	<u>2015</u> (9)	<u>2014</u> (10)	<u>2013</u> (11)	<u>2012</u> (12)	<u>2011</u> (13)	<u>2010</u> (14)	<u>2009</u> (15)	<u>2008</u> (16)	<u>2007</u> (17)	<u>2006</u> (18)
1 2 3 4 5 6 7 8 9 10 11 12 13	Atmos Energy Chesapeake Utilities New Jersey Resources NiSource Inc. Northwest Nat. Gas ONE Gas Inc. South Jersey Inds. Southwest Gas Spire Inc. UGI Cop. WGL Holdings Inc. Average Median	5.10% 5.21% 7.19% 5.59% 6.53% 4.26% 6.99% 4.42% 5.89% 5.62% 6.86% 5.83% 5.72%	4.10% 4.31% 7.73% 6.39% 6.03% 5.30% 6.94% 4.64% 5.58% 5.07% N/A 5.61% 5.44%	4.19% 4.15% 7.92% 6.69% 5.66% 5.04% 7.53% 4.80% 5.56% 5.34% N/A 5.69% 5.45%	4.26% 4.23% 6.60% 6.64% 6.57% 5.14% 7.21% 4.87% 5.63% 6.65% N/A 5.78% 6.10%	4.36% 4.53% 6.85% 5.99% 6.69% 4.96% 7.53% 4.79% 5.25% 6.30% N/A 5.72% 5.62%	4.53% 4.39% 6.87% 5.96% 7.16% 4.73% 7.63% 4.90% 5.06% 4.82% N/A 5.60% 4.98%	4.90% 4.23% 7.26% 5.46% 7.27% 4.48% 7.34% 5.25% 5.09% 5.28% 6.88% 5.77% 5.28%	5.04% 4.35% 7.21% 5.08% 6.30% 3.88% 6.53% 5.14% 5.06% 5.65% 7.21% 5.59% 5.14%	4.96% 4.78% 7.16% 6.89% 6.53% 3.41% 6.98% 4.82% 5.07% 5.72% 7.33% 5.78% 5.72%	4.81% 5.18% 7.45% 5.22% 6.58% 2.44% 7.04% 4.57% 5.04% 5.14% 7.14% 5.51% 5.51%	4.92% 5.25% 7.60% 5.22% 6.59% N/A 7.12% 4.33% 5.31% 5.07% 6.73% 5.82% 5.28%	5.28% 5.39% 7.86% 5.25% 6.57% N/A 7.09% 4.16% 6.22% 5.35% 6.45% 5.96% 5.80%	5.44% 5.42% 7.69% 5.19% 6.55% N/A 7.26% 3.98% 6.30% 5.77% 6.60% 6.02% 6.02% 6.03%	5.55% 5.49% 5.22% 6.44% N/A 7.13% 3.90% 6.53% 5.41% 6.57% 6.00% 5.99%	5.61% 5.60% 7.48% 5.25% 6.43% N/A 6.69% 3.89% 6.56% 5.35% 6.72% 5.96% 6.02%	5.75% 6.71% 6.42% 5.34% 6.41% N/A 6.40% 3.83% 6.74% 5.72% 6.71% 6.00% 6.41%	5.82% 6.66% 4.97% 6.39% N/A 6.22% 3.74% 7.33% 5.82% 6.88% 6.04% 6.30%	6.25% 6.95% 6.40% 5.02% 6.32% N/A 6.09% 3.80% 7.43% 6.54% 7.13% 6.19% 6.36%
												1							
		17-Year							Divi	dends to E	arnings R	atio							
<u>Line</u>	Company	Average (1)	(2)	<u>2021</u> (3)	<u>2020</u> (4)	<u>2019</u> (5)	<u>2018</u> (6)	<u>2017</u> (7)	<u>2016</u> (8)	<u>2015</u> (9)	<u>2014</u> (10)	<u>2013</u> (11)	<u>2012</u> (12)	<u>2011</u> (13)	<u>2010</u> (14)	<u>2009</u> (15)	<u>2008</u> (16)	<u>2007</u> (17)	<u>2006</u> (18)
14 15 16 17 18 19 20 21 22 23 24 25 26	Atmos Energy Chesapeake Utilities New Jersey Resources NiSource Inc. Northwest Nat. Gas ONE Gas Inc. South Jersey Inds. South Jersey Inds. South Jersey Inds. Southwest Gas Spire Inc. UGI Corp. WGL Holdings Inc. Average Median	0.56 0.48 0.55 0.63 0.64 0.54 0.65 0.51 0.68 0.44 0.64 0.60 0.59	0.49 0.43 0.60 0.65 0.74 0.62 0.74 0.71 0.69 0.49 N/A 0.62 0.63	0.49 0.39 0.63 0.65 0.77 0.60 0.74 0.63 0.52 0.46 N/A 0.59 0.61	0.49 0.61 0.64 0.83 0.59 0.71 0.55 1.73 0.49 N/A 0.70 0.60	0.48 0.42 0.61 0.87 0.57 1.04 0.55 0.67 0.50 N/A 0.63 0.59	0.49 0.40 0.41 0.57 0.82 0.57 0.52 0.37 N/A 0.55 0.54	$\begin{array}{c} 0.50\\ 0.47\\ 0.60\\ 1.79\\ 0.56\\ 0.89\\ 0.55\\ 0.61\\ 0.42\\ 0.65\\ 0.55\\ 0.56\\ \end{array}$	0.50 0.42 0.61 0.64 0.88 0.53 0.79 0.57 0.60 0.45 0.59 0.60 0.59 <b>Cash Fic</b>	0.50 0.42 0.52 1.32 0.95 0.54 0.71 0.55 0.58 0.44 0.58 0.65 0.55	0.50 0.43 0.41 0.61 0.41 0.41 0.41 0.41 0.41 0.75 0.41 0.64 0.50 <b>xal Spendir</b>	0.56 0.45 0.59 0.62 0.82 0.82 0.84 0.42 0.84 0.46 0.72 0.61 0.59	0.66 0.48 0.57 0.69 0.81 N/A 0.54 0.41 0.59 0.60 0.59 0.59	0.60 0.48 0.56 0.88 0.73 N/A 0.52 0.44 0.56 0.50 0.69 0.59 0.56	0.62 0.48 0.55 0.87 0.62 N/A 0.50 0.44 0.65 0.38 0.66 0.58 0.58	0.67 0.58 0.52 1.10 0.57 N/A 0.57 0.49 0.52 0.33 0.58 0.59 0.54	0.65 0.58 0.41 0.69 0.59 N/A 0.49 0.65 0.56 0.38 0.58	0.66 0.61 0.65 0.81 0.52 N/A 0.48 0.44 0.63 0.41 0.65 0.59 0.62	0.63 0.67 0.51 0.59 N/A 0.37 0.41 0.59 0.41 0.69 0.57 0.59
<u>Line</u>	<u>Company</u>	17-Year <u>Average</u> (1)	<u>2022 <sup>2/a</sup></u> (2)	<u>2021</u> (3)	<u>2020</u> (4)	<u>2019</u> (5)	<u>2018</u> (6)	<u>2017</u> (7)	<u>2016</u> (8)	<u>2015</u> (9)	<u>2014</u> (10)	<u>2013</u> (11)	<u>2012</u> (12)	<u>2011</u> (13)	<u>2010</u> (14)	<u>2009</u> (15)	<u>2008</u> (16)	<u>2007</u> (17)	<u>2006</u> (18)
27 28 29 30 31 32 33 34 35 36 37 38	Atmos Energy Chesapeake Utilities New Jersey Resources NiSource Inc. Northwest Nat. Gas ONE Gas Inc. South Jersey Inds. South Jersey Inds. Southwest Gas Spire Inc. UGI Corp. WGL Holdings Inc. Average	0.66 0.73 1.26 0.76 0.94 0.86 0.82 0.86 1.07 1.47 1.02 0.95	0.54 0.96 0.61 0.56 0.61 0.84 0.83 1.53 N/A 0.79	0.58 0.81 0.62 0.68 0.68 0.86 0.55 0.86 0.75 1.32 N/A 0.77	0.52 0.78 0.71 0.66 0.66 0.83 0.54 0.69 0.42 1.59 N/A 0.74	0.53 0.62 0.51 0.69 0.89 0.40 0.53 0.44 1.22 N/A 0.64	0.55 0.39 0.85 0.71 0.84 0.73 0.56 0.77 1.64 N/A 0.76	0.62 0.50 0.70 0.41 0.14 0.87 0.81 0.68 0.72 1.29 0.61 0.67	0.59 0.50 0.59 1.01 0.92 0.76 0.83 0.96 1.35 0.56	0.60 0.53 0.67 0.53 1.12 0.86 0.50 0.84 0.92 1.48 0.60 0.79	0.65 0.71 1.79 0.56 1.15 0.79 0.53 0.99 0.98 1.53 0.63	0.55 0.65 1.46 0.57 0.98 N/A 0.51 1.05 0.78 1.32 0.71 0.86	0.59 0.79 1.48 0.65 1.01 N/A 0.58 0.90 0.95 1.52 0.93 0.94	0.68 1.12 1.51 0.75 1.33 N/A 0.70 0.82 1.53 1.28 1.02	0.77 1.10 1.55 1.11 0.55 N/A 0.75 1.37 1.61 1.36 1.60 1.18	0.78 1.14 1.75 1.06 1.02 N/A 1.01 1.28 1.93 1.52 1.60	0.81 0.83 2.11 0.94 1.35 N/A 1.67 0.85 1.64 1.72 1.60	0.94 0.82 1.67 1.11 1.21 N/A 1.70 0.78 1.42 1.62 1.17 1.24	0.82 0.45 2.14 1.37 1.34 N/A 1.40 0.72 1.28 1.69 1.18 1.24
39	Median	0.76	0.72	0.72	0.67	0.57	0.72	0.68	0.76	0.67	0.79	0.74	0.92	1.07	1.23	1.21	1.48	1.19	1.31

<sup>1</sup> Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021. Data for the year 2020 was retrieved from Value Line Investment Surveys, February 26, 2021. Data for the year 2021 was retrieved from Value Line Investment Surveys, February 25, 2022.

<sup>2</sup> The Value Line Investment Survey, November 25, 2022.

Sources:

<sup>4</sup> The Value Line Investment Survey, November 20, 2022.
 Notes:
 <sup>a</sup> Based on the projected Dividends Declared per share and Book Value per share, published in The Value Line Investment Survey.
 <sup>b</sup> Based on the projected Dividends Declared per share and Earnings per share, published in The Value Line Investment Survey.
 <sup>c</sup> Based on the projected Cash Flow per share and Capital Spending per share, published in The Value Line Investment Survey.

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IN THE MATTER OF THE APPLICATION OF VEOLIA WATER IDAHO INC. FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR WATER SERVICE IN ) THE STATE OF IDAHO

) CASE NO. VEO-W-22-02

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT NO. 403 TO ACCOMPANY THE

## Proxy Group

		Credit	Ratings <sup>1</sup>	Common B	Equity Ratios
Line	<u>Company</u>	S&P	Moody's	<u>MI<sup>1</sup></u>	Value Line <sup>2</sup>
		(1)	(2)	(3)	(4)
	Water				
1	American States Water Company	A+	WR	50.7%	53.9%
2	American Water Works Company, Inc.	А	Baa1	60.6%	41.4%
3	California Water Service Group	A+	NR	52.5%	52.7%
4	Essential Utilities, Inc.	А	Baa2	55.3%	47.3%
5	Middlesex Water Company	А	NR	47.5%	54.4%
6	SJW Group	A-	NR	62.1%	40.9%
	Average	Α	Baa1	54.8%	48.4%
	Gas				
7	Atmos Energy Corporation	A-	A1	51.1%	61.6%
8	New Jersey Resources Corporation	NR	A1	37.2%	43.0%
9	NiSource Inc.	BBB+	Baa2	31.6%	33.5%
10	Northwest Natural Holding Company	A+	Baa1	38.2%	47.2%
11	ONE Gas, Inc.	A-	A3	35.8%	39.0%
12	Southwest Gas Holdings, Inc.	BBB-	Baa2	30.8%	41.8%
13	Spire Inc.	A-	Baa2	37.8%	43.2%
14	UGI Corporation	NR	A3	41.6%	44.7%
15	Average	A-	A3	38.0%	44.3%
16	Veolia Water Idaho, Inc.	A <sup>3</sup>	NR		55.6% <sup>4</sup>

Sources:

<sup>2</sup> The Value Line Investment Survey, November 25, 2022 and January 6, 2023.

<sup>3</sup> Walker Direct, Page 28.

<sup>4</sup> Walker Exhibit No. 1, Schedule 1.

Subsidiary ratings used if parent company is unrated.

<sup>&</sup>lt;sup>1</sup> S&P Global Market Intelligence, Downloaded on January 20, 2023.

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IN THE MATTER OF THE APPLICATION OF VEOLIA WATER IDAHO INC. FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR WATER SERVICE IN ) THE STATE OF IDAHO

) CASE NO. VEO-W-22-02

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT NO. 404 TO ACCOMPANY THE

### **Consensus Analysts' Growth Rates**

		Za	cks	Ν	/1	Yahoo!	Finance	Average of
		Estimated	Number of	Estimated	Number of	Estimated	Number of	Growth
Line	<u>Company</u>	Growth % <sup>1</sup>	Estimates	Growth % <sup>2</sup>	Estimates	<u>Growth %<sup>3</sup></u>	Estimates	<u>Rates</u>
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Water							
1	American States Water Company	N/A	N/A	7.00%	1	4.40%	N/A	5.70%
2	American Water Works Company, Inc.	8.08%	N/A	7.72%	3	8.28%	N/A	8.03%
3	California Water Service Group	N/A	N/A	6.00%	1	11.70%	N/A	8.85%
4	Essential Utilities, Inc.	6.14%	N/A	6.64%	2	6.60%	N/A	6.46%
5	Middlesex Water Company	N/A	N/A	N/A	N/A	2.70%	N/A	2.70%
6	SJW Group	N/A	N/A	7.00%	1	9.80%	N/A	8.40%
	Average	7.11%	N/A	6.87%	2	7.25%	N/A	6.69%
	Gas							
7	Atmos Energy Corporation	7.48%	N/A	7.52%	4	8.16%	N/A	7.72%
8	New Jersey Resources Corporation	4.30%	N/A	6.20%	3	6.00%	N/A	5.50%
9	NiSource Inc.	6.82%	N/A	7.13%	5	6.35%	N/A	6.77%
10	Northwest Natural Holding Company	4.30%	N/A	4.33%	4	4.30%	N/A	4.31%
11	ONE Gas, Inc.	5.00%	N/A	5.00%	2	5.00%	N/A	5.00%
12	Southwest Gas Holdings, Inc.	5.00%	N/A	3.00%	3	4.00%	N/A	4.00%
13	Spire Inc.	5.00%	N/A	2.53%	3	8.00%	N/A	5.18%
14	UGI Corporation	8.00%	N/A	7.50%	2	6.60%	N/A	7.37%
15	Average	5.74%	N/A	5.40%	3	6.05%	N/A	5.73%

#### Sources:

<sup>1</sup> Zacks, http://www.zacks.com/, downloaded on January 20, 2023.

<sup>2</sup> S&P Global Market Intelligence, https://platform.mi.spglobal.com, downloaded on January 20, 2023.

<sup>3</sup> Yahoo! Finance, https://finance.yahoo.com/, downloaded on January 20, 2023.

Exhibit No. 404 Case No. VEO-W-22-02 Gorman, Micron Technology, Inc. Page 1 of 1

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IN THE MATTER OF THE APPLICATION OF VEOLIA WATER IDAHO INC. FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR WATER SERVICE IN ) THE STATE OF IDAHO

) CASE NO. VEO-W-22-02

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT NO. 405 TO ACCOMPANY THE

#### Constant Growth DCF Model (Consensus Analysts' Growth Rates)

<u>Line</u>	<u>Company</u>	13-Week AVG <u>Stock Price<sup>1</sup></u> (1)	Analysts' <u>Growth<sup>2</sup></u> (2)	Annualized <u>Dividend<sup>3</sup></u> (3)	Adjusted <u>Yield</u> (4)	Constant <u>Growth DCF</u> (5)
	Water	()	( )			
1	American States Water Company	\$93.68	5.70%	\$1.59	1.79%	7.49%
2	American Water Works Company, Inc.	\$150.34	8.03%	\$2.62	1.88%	9.91%
3	California Water Service Group	\$61.70	8.85%	\$1.00	1.76%	10.61%
4	Essential Utilities, Inc.	\$46.88	6.46%	\$1.15	2.61%	9.07%
5	Middlesex Water Company	\$86.81	2.70%	\$1.25	1.48%	4.18%
6	SJW Group	\$75.78	8.40%	\$1.44	2.06%	10.46%
7	Average	\$85.86	6.69%	\$1.51	1.93%	8.62%
8	Median	\$81.30	7.24%	\$1.35	1.84%	9.49%
	Gas					
9	Atmos Energy Corporation	\$112.66	7.72%	\$2.96	2.83%	10.55%
10	New Jersey Resources Corporation	\$48.04	5.50%	\$1.45	3.18%	8.68%
11	NiSource Inc.	\$26.82	6.77%	\$0.94	3.74%	10.51%
12	Northwest Natural Holding Company	\$47.81	4.31%	\$1.94	4.23%	8.54%
13	ONE Gas, Inc.	\$78.48	5.00%	\$2.48	3.32%	8.32%
14	Southwest Gas Holdings, Inc.	\$66.64	4.00%	\$2.48	3.87%	7.87%
15	Spire Inc.	\$69.53	5.18%	\$2.74	4.14%	9.32%
16	UGI Corporation	\$37.71	7.37%	\$1.44	4.10%	11.47%
17	Average	\$60.96	5.73%	\$2.05	3.68%	9.41%
18	Median	\$57.34	5.34%	\$2.21	3.81%	9.00%

Sources:

<sup>1</sup> S&P Global Intelligence, Downloaded on January 20, 2023.

<sup>2</sup> Exhibit No. 404.

 $^{\rm 3}$  The Value Line Investment Survey , November 25, 2022 and January 6, 2023.

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IN THE MATTER OF THE APPLICATION OF VEOLIA WATER IDAHO INC. FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR WATER SERVICE IN ) THE STATE OF IDAHO

) CASE NO. VEO-W-22-02

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT NO. 406 TO ACCOMPANY THE

### **Payout Ratios**

		Dividend	s Per Share	Earnings	s Per Share	Payo	ut Ratio
Line	<u>Company</u>	<u>2021</u>	Projected	<u>2021</u>	Projected	<u>2021</u>	Projected
		(1)	(2)	(3)	(4)	(5)	(6)
	Water						
1	American States Water Company	\$1.40	\$2.15	\$2.55	\$3.25	54.9%	66.2%
2	American Water Works Company, Inc.	\$2.36	\$3.55	\$6.95	\$5.75	34.0%	61.7%
3	California Water Service Group	\$0.92	\$1.25	\$1.96	\$2.55	46.9%	49.0%
4	Essential Utilities, Inc.	\$1.04	\$1.55	\$1.67	\$2.25	62.3%	68.9%
5	Middlesex Water Company	\$1.11	\$1.50	\$2.07	\$3.00	53.6%	50.0%
6	SJW Group	\$1.36	\$1.76	\$2.03	\$3.25	67.0%	54.2%
	Average	\$1.37	\$1.96	\$2.87	\$3.34	53.1%	58.3%
	Gas						
7	Atmos Energy Corporation	\$2.50	\$3.50	\$5.12	\$7.30	48.8%	47.9%
8	New Jersey Resources Corporation	\$1.36	\$1.95	\$2.16	\$2.90	63.0%	67.2%
9	NiSource Inc.	\$0.88	\$1.08	\$1.37	\$2.10	64.2%	51.4%
10	Northwest Natural Holding Company	\$1.92	\$1.96	\$2.56	\$3.30	75.0%	59.4%
11	ONE Gas, Inc.	\$2.32	\$3.12	\$3.85	\$5.30	60.3%	58.9%
12	Southwest Gas Holdings, Inc.	\$2.38	\$3.15	\$3.39	\$5.75	70.2%	54.8%
13	Spire Inc.	\$2.60	\$3.30	\$4.96	\$5.50	52.4%	60.0%
14	UGI Corporation	\$1.35	\$1.54	\$2.96	\$3.90	45.6%	39.5%
15	Average	\$1.91	\$2.45	\$3.30	\$4.51	59.9%	54.9%

Source:

The Value Line Investment Survey, November 25, 2022 and January 6, 2023.

Exhibit No. 406 Case No. VEO-W-22-02 Gorman, Micron Technology, Inc. Page 1 of 1

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IN THE MATTER OF THE APPLICATION OF VEOLIA WATER IDAHO INC. FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR WATER SERVICE IN ) THE STATE OF IDAHO

) CASE NO. VEO-W-22-02

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT NO. 407 TO ACCOMPANY THE

#### Sustainable Growth Rate

						3 to 5 Yea	ar Projections					Sustainable
		Dividends	Earnings	Book Value	Book Value		Adjustment	Adjusted	Payout	Retention	Internal	Growth
Line	Company	Per Share	Per Share	Per Share	Growth	ROE	Factor	ROE	Ratio	Rate	Growth Rate	Rate
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Water											
1	American States Water Company	\$2.15	\$3.25	\$23.75	5.04%	13.68%	1.02	14.02%	66.15%	33.85%	4.75%	5.76%
2	American Water Works Company, Inc.	\$3.55	\$5.75	\$57.80	7.54%	9.95%	1.04	10.31%	61.74%	38.26%	3.94%	6.02%
3	California Water Service Group	\$1.25	\$2.55	\$27.30	4.49%	9.34%	1.02	9.55%	49.02%	50.98%	4.87%	4.87%
4	Essential Utilities, Inc.	\$1.55	\$2.25	\$26.90	5.58%	8.36%	1.03	8.59%	68.89%	31.11%	2.67%	4.88%
5	Middlesex Water Company	\$1.50	\$3.00	\$22.80	1.67%	13.16%	1.01	13.27%	50.00%	50.00%	6.63%	8.05%
6	SJW Group	\$1.76	\$3.25	\$40.85	3.57%	7.96%	1.02	8.10%	54.15%	45.85%	3.71%	3.71%
	Average	\$1.96	\$3.34	\$33.23	4.65%	10.41%	1.02	10.64%	58.33%	41.67%	4.43%	5.55%
	Gas											
7	Atmos Energy Corporation	\$3.50	\$7.30	\$82.85	6.77%	8.81%	1.03	9.10%	47.95%	52.05%	4.74%	7.09%
8	New Jersey Resources Corporation	\$1.95	\$2.90	\$25.00	7.79%	11.60%	1.04	12.03%	67.24%	32.76%	3.94%	5.50%
9	NiSource Inc.	\$1.08	\$2.10	\$17.50	5.59%	12.00%	1.03	12.33%	51.43%	48.57%	5.99%	6.43%
10	Northwest Natural Holding Company	\$1.96	\$3.30	\$37.65	4.62%	8.76%	1.02	8.96%	59.39%	40.61%	3.64%	5.64%
11	ONE Gas, Inc.	\$3.12	\$5.30	\$63.15	7.59%	8.39%	1.04	8.70%	58.87%	41.13%	3.58%	3.66%
12	Southwest Gas Holdings, Inc.	\$3.15	\$5.75	\$95.00	14.21%	6.05%	1.07	6.45%	54.78%	45.22%	2.92%	4.25%
13	Spire Inc.	\$3.30	\$5.50	\$67.10	7.50%	8.20%	1.04	8.49%	60.00%	40.00%	3.40%	3.90%
14	UGI Corporation	\$1.54	\$3.90	\$35.90	7.27%	10.86%	1.04	11.24%	39.49%	60.51%	6.80%	6.81%
15	Average	\$2.45	\$4.51	\$53.02	7.67%	9.34%	1.04	9.66%	54.89%	45.11%	4.38%	5.41%

Sources and Notes:

Cols. (1), (2) and (3): The Value Line Investment Survey, November 25, 2022 and January 6, 2023. Col. (4): [Col. (3) / Page 2 Col. (2) ] ^ (1/number of years projected) - 1. Col. (5): Col. (2) / Col. (3). Col. (5): [2\*(1 + Col. (4)) ] / (2 + Col. (4)). Col. (7): Col. (6) \* Col. (5). Col. (8): Col. (1) / Col. (2). Col. (9): 1 - Col. (8). Col. (10): Col. (9) \* Col. (7). Col. (11): Col. (10) + Page 2 Col. (9).

> Exhibit No. 407 Case No. VEO-W-22-02 Gorman, Micron Technology, Inc. Page 1 of 2

#### Sustainable Growth Rate

		13-Week	2021	Market	Common Shares					
		Average	Book Value	to Book	Outstanding (in Millions) <sup>2</sup>					
Line	<u>Company</u>	Stock Price <sup>1</sup>	Per Share <sup>2</sup>	Ratio	2020	3-5 Years	Growth	S Factor <sup>3</sup>	V Factor <sup>4</sup>	<u>S * V</u>
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	American States Water Company	\$93.68	\$18.57	5.04	36.94	37.50	0.25%	1.27%	80.18%	1.02%
2	American Water Works Company, Inc.	\$150.34	\$40.18	3.74	181.61	190.00	0.76%	2.83%	73.27%	2.07%
3	California Water Service Group	\$61.70	\$21.92	2.81	53.72	50.00	- 1.19%	- 3.35%	64.47%	- 2.16%
4	Essential Utilities, Inc.	\$46.88	\$20.50	2.29	252.87	280.00	1.71%	3.92%	56.27%	2.20%
5	Middlesex Water Company	\$86.81	\$20.99	4.14	17.52	18.00	0.45%	1.87%	75.82%	1.42%
6	SJW Group	\$75.78	\$34.28	2.21	30.18	30.00	- 0.10%	- 0.22%	54.76%	- 0.12%
	Average	\$85.86	\$26.07	3.37	95.47	100.92	0.31%	1.05%	67.46%	0.74%
7	Atmos Energy Corporation	\$112.66	\$59.71	1.89	132.42	155.00	2.66%	5.02%	47.00%	2.36%
8	New Jersey Resources Corporation	\$48.04	\$17.18	2.80	94.95	100.00	0.87%	2.43%	64.24%	1.56%
9	NiSource Inc.	\$26.82	\$13.33	2.01	404.30	415.00	0.44%	0.88%	50.30%	0.44%
10	Northwest Natural Holding Company	\$47.81	\$30.04	1.59	31.13	38.00	3.38%	5.38%	37.17%	2.00%
11	ONE Gas, Inc.	\$78.48	\$43.81	1.79	56.63	57.00	0.11%	0.19%	44.18%	0.09%
12	Southwest Gas Holdings, Inc.	\$66.64	\$48.89	1.36	60.42	75.00	3.67%	5.00%	26.64%	1.33%
13	Spire Inc.	\$69.53	\$46.74	1.49	51.70	55.00	1.04%	1.54%	32.78%	0.51%
14	UGI Corporation	\$37.71	\$25.27	1.49	209.84	210.00	0.01%	0.02%	32.98%	0.01%
15	Average	\$60.96	\$35.62	1.80	130.17	138.13	1.52%	2.56%	41.91%	1.04%

Sources and Notes:

<sup>1</sup> S&P Global Intelligence, Downloaded on January 20, 2023.

<sup>2</sup> The Value Line Investment Survey, November 25, 2022 and January 6, 2023.

<sup>3</sup> Expected Growth in the Number of Shares, Column (3) \* Column (6).

<sup>4</sup> Expected Profit of Stock Investment, [1 - 1 / Column (3)].

Exhibit No. 407 Case No. VEO-W-22-02 Gorman, Micron Technology, Inc. Page 2 of 2

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IN THE MATTER OF THE APPLICATION OF VEOLIA WATER IDAHO INC. FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR WATER SERVICE IN ) THE STATE OF IDAHO

) CASE NO. VEO-W-22-02

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT NO. 408 TO ACCOMPANY THE

## **Constant Growth DCF Model** (Sustainable Growth Rate)

		13-Week AVG	Sustainable	Annualized	Adjusted	Constant
Line	<u>Company</u>	Stock Price <sup>1</sup>	Growth <sup>2</sup>	Dividend <sup>3</sup>	Yield	Growth DCF
		(1)	(2)	(3)	(4)	(5)
	Water					
1	American States Water Company	\$93.68	5.76%	\$1.59	1.80%	7.56%
2	American Water Works Company, Inc.	\$150.34	6.02%	\$2.62	1.85%	7.86%
3	California Water Service Group	\$61.70	4.87%	\$1.00	1.70%	6.57%
4	Essential Utilities, Inc.	\$46.88	4.88%	\$1.15	2.57%	7.45%
5	Middlesex Water Company	\$86.81	8.05%	\$1.25	1.56%	9.60%
6	SJW Group	\$75.78	3.71%	\$1.44	1.97%	5.68%
	Average	\$85.86	5.55%	\$1.51	1.91%	7.45%
	Median	\$81.30	5.32%	\$1.35	1.82%	7.50%
	Gas					
7	Atmos Energy Corporation	\$112.66	7.09%	\$2.96	2.81%	9.91%
8	New Jersey Resources Corporation	\$48.04	5.50%	\$1.45	3.18%	8.68%
9	NiSource Inc.	\$26.82	6.43%	\$0.94	3.73%	10.16%
10	Northwest Natural Holding Company	\$47.81	5.64%	\$1.94	4.29%	9.93%
11	ONE Gas, Inc.	\$78.48	3.66%	\$2.48	3.28%	6.94%
12	Southwest Gas Holdings, Inc.	\$66.64	4.25%	\$2.48	3.88%	8.13%
13	Spire Inc.	\$69.53	3.90%	\$2.74	4.09%	8.00%
14	UGI Corporation	\$37.71	6.81%	\$1.44	4.08%	10.89%
15	Average	\$60.96	5.41%	\$2.05	3.67%	9.08%
16	Median	\$57.34	5.57%	\$2.21	3.80%	9.30%

Sources:

<sup>1</sup> S&P Global Intelligence, Downloaded on January 20, 2023.
 <sup>2</sup> Exhibit No. 407.

<sup>3</sup> The Value Line Investment Survey, November 25, 2022 and January 6, 2023.

Exhibit No. 408 Case No. VEO-W-22-02 Gorman, Micron Technology, Inc. Page 1 of 1

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IN THE MATTER OF THE APPLICATION OF VEOLIA WATER IDAHO INC. FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR WATER SERVICE IN ) THE STATE OF IDAHO

) CASE NO. VEO-W-22-02

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT NO. 409 TO ACCOMPANY THE

## **Electricity Sales Are Linked to U.S. Economic Growth**



Note:

1988 represents the base year. Graph depicts increases or decreases from the base year.

Sources:

U.S. Energy Information Administration Federal Reserve Bank of St. Louis

Exhibit No. 409 Case No. VEO-W-22-02 Gorman, Micron Technology, Inc. Page 1 of 1

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IN THE MATTER OF THE APPLICATION OF VEOLIA WATER IDAHO INC. FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR WATER SERVICE IN ) THE STATE OF IDAHO

) CASE NO. VEO-W-22-02

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT NO. 410 TO ACCOMPANY THE

#### Multi-Stage Growth DCF Model

		13-Week AVG	Annualized	First Stage	Second Stage Growth					Third Stage	Multi-Stage
Line	<u>Company</u>	Stock Price <sup>1</sup>	Dividend <sup>2</sup>	Growth <sup>3</sup>	Year 6	Year 7	Year 8	Year 9	<u>Year 10</u>	<b>Growth</b> <sup>4</sup>	Growth DCF
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Water										
1	American States Water Company	\$93.68	\$1.59	5.70%	5.42%	5.13%	4.85%	4.57%	4.28%	4.00%	5.93%
2	American Water Works Company, Inc.	\$150.34	\$2.62	8.03%	7.36%	6.68%	6.01%	5.34%	4.67%	4.00%	6.34%
3	California Water Service Group	\$61.70	\$1.00	8.85%	8.04%	7.23%	6.43%	5.62%	4.81%	4.00%	6.29%
4	Essential Utilities, Inc.	\$46.88	\$1.15	6.46%	6.05%	5.64%	5.23%	4.82%	4.41%	4.00%	6.98%
5	Middlesex Water Company	\$86.81	\$1.25	2.70%	2.92%	3.13%	3.35%	3.57%	3.78%	4.00%	5.24%
6	SJW Group	\$75.78	\$1.44	8.40%	7.67%	6.93%	6.20%	5.47%	4.73%	4.00%	6.62%
	Average	\$85.86	\$1.51	6.69%	6.24%	5.79%	5.34%	4.90%	4.45%	4.00%	6.23%
	Median	\$81.30	\$1.35	7.24%	6.70%	6.16%	5.62%	5.08%	4.54%	4.00%	6.31%
	Gas										
7	Atmos Energy Corporation	\$112.66	\$2.96	7.72%	7.10%	6.48%	5.86%	5.24%	4.62%	4.00%	7.46%
8	New Jersey Resources Corporation	\$48.04	\$1.45	5.50%	5.25%	5.00%	4.75%	4.50%	4.25%	4.00%	7.45%
9	NiSource Inc.	\$26.82	\$0.94	6.77%	6.31%	5.84%	5.38%	4.92%	4.46%	4.00%	8.33%
10	Northwest Natural Holding Company	\$47.81	\$1.94	4.31%	4.26%	4.21%	4.15%	4.10%	4.05%	4.00%	8.30%
11	ONE Gas, Inc.	\$78.48	\$2.48	5.00%	4.83%	4.67%	4.50%	4.33%	4.17%	4.00%	7.50%
12	Southwest Gas Holdings, Inc.	\$66.64	\$2.48	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	7.87%
13	Spire Inc.	\$69.53	\$2.74	5.18%	4.98%	4.78%	4.59%	4.39%	4.20%	4.00%	8.41%
14	UGI Corporation	\$37.71	\$1.44	7.37%	6.81%	6.24%	5.68%	5.12%	4.56%	4.00%	8.89%
15	Average	\$60.96	\$2.05	5.73%	5.44%	5.15%	4.86%	4.58%	4.29%	4.00%	8.03%
4	Median	\$57.34	\$2.21	5.34%	5.12%	4.89%	4.67%	4.45%	4.22%	4.00%	8.08%

Sources:

<sup>1</sup> S&P Global Intelligence, Downloaded on January 20, 2023.

<sup>2</sup> The Value Line Investment Survey, November 25, 2022 and January 6, 2023.

<sup>3</sup> Exhibit No. 404.

<sup>4</sup> Blue Chip Financial Forecasts, December 2, 2022 at page 14.

Exhibit No. 410 Case No. VEO-W-22-02 Gorman, Micron Technology, Inc. Page 1 of 1

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IN THE MATTER OF THE APPLICATION OF VEOLIA WATER IDAHO INC. FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR WATER SERVICE IN ) THE STATE OF IDAHO

) CASE NO. VEO-W-22-02

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT NO. 411 TO ACCOMPANY THE

**Common Stock Market/Book Ratio** 



Source:

1980 - 2000: Mergent Public Utility Manual.

2001 - 2015: AUS Utility Reports, multiple dates.

2016 - 2021: Value Line Investment Survey, multiple dates.

\* Value Line Investment Survey Reports, September 9, October 21, November 11, and November 25, 2022.

Exhibit No. 411 Case No. VEO-W-22-02 Gorman, Micron Technology, Inc. Page 1 of 1

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IN THE MATTER OF THE APPLICATION OF VEOLIA WATER IDAHO INC. FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR WATER SERVICE IN ) THE STATE OF IDAHO

) CASE NO. VEO-W-22-02

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT NO. 412 TO ACCOMPANY THE

#### Equity Risk Premium - Treasury Bond

		Authorized	30 yr. Treasury	Indicated Risk	Rolling	Rolling
Line	Year	Returns <sup>1</sup>	Bond Yield <sup>2</sup>	Premium	Average	Average
	<u></u>	(1)	(2)	(3)	(4)	(5)
1	1986	13.46%	7.80%	5.66%		
2	1987	12.74%	8.58%	4.16%		
3	1988	12.85%	8.96%	3.89%		
4	1989	12.88%	8.45%	4.43%		
5	1990	12.67%	8.61%	4.06%	4.44%	
6	1991	12.46%	8.14%	4.32%	4.17%	
7	1992	12.01%	7.67%	4.34%	4.21%	
8	1993	11.35%	6.60%	4.75%	4.38%	
9	1994	11.35%	7.37%	3.98%	4.29%	
10	1995	11.43%	6.88%	4.55%	4.39%	4.42%
11	1996	11.19%	6.70%	4.49%	4.42%	4.30%
12	1997	11.29%	6.61%	4.68%	4.49%	4.35%
13	1998	11.51%	5.58%	5.93%	4.73%	4.55%
14	1999	10.66%	5.87%	4.79%	4.89%	4.59%
15	2000	11.39%	5.94%	5.45%	5.07%	4.73%
16	2001	10.95%	5.49%	5.46%	5.26%	4.84%
17	2002	11.03%	5.43%	5.60%	5.45%	4.97%
18	2003	10.99%	4.96%	6.03%	5.47%	5.10%
19	2004	10.59%	5.05%	5.54%	5.62%	5.25%
20	2005	10.46%	4.65%	5.81%	5.69%	5.38%
21	2006	10.40%	4.87%	5.53%	5.70%	5.48%
22	2007	10.22%	4.83%	5.39%	5.66%	5.55%
23	2008	10.39%	4.28%	6.11%	5.68%	5.57%
24	2009	10.22%	4.07%	6.15%	5.80%	5.71%
25	2010	10.15%	4.25%	5.90%	5.81%	5.75%
26	2011	9.92%	3.91%	6.01%	5.91%	5.81%
27	2012	9.94%	2.92%	7.02%	6.24%	5.95%
28	2013	9.68%	3.45%	6.23%	6.26%	5.97%
29	2014	9.78%	3.34%	6.44%	6.32%	6.06%
30	2015	9.60%	2.84%	6.76%	6.49%	6.15%
31	2016	9.54%	2.60%	6.94%	6.68%	6.29%
32	2017	9.72%	2.90%	6.83%	6.64%	6.44%
33	2018	9.59%	3.11%	6.48%	6.69%	6.48%
34	2019	9.71%	2.58%	7.13%	6.83%	6.57%
35	2020	9.46%	1.56%	7.90%	7.05%	6.77%
36	2021	9.56%	2.05%	7.51%	7.17%	6.92%
37	2022 <sup>3</sup>	9.42%	2.85%	6.57%	7.12%	6.88%
38	Average	10.83%	5.18%	5.64%	5.61%	5.60%
39	Minimum				4.17%	4.30%
40	Maximum				7.17%	6.92%

Sources:

<sup>1</sup> Regulatory Research Associates, Inc., Regulatory Focus, Major Rate Case Decisions, Jan. 1997 p. 5, and Jan. 2011 p. 3.
 S&P Global Market Intelligence, RRA Regulatory Focus, Major Rate Case Decisions, January - September 2022, October 31, 2022, p. 4.

<sup>2</sup> St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/.

The yields from 2002 to 2005 represent the 20-Year Treasury yields obtained from the Federal Reserve Bank.

<sup>3</sup> Data represents January - September, 2022.

Exhibit No. 412 Case No. VEO-W-22-02 Gorman, Micron Technology, Inc. Page 1 of 1

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IN THE MATTER OF THE APPLICATION OF VEOLIA WATER IDAHO INC. FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR WATER SERVICE IN ) THE STATE OF IDAHO

) CASE NO. VEO-W-22-02

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT NO. 413 TO ACCOMPANY THE

#### Equity Risk Premium - Utility Bond

<u>Line</u>	<u>Year</u>	Authorized Gas <u>Returns<sup>1</sup></u> (1)	Average "A" Rated Utility <u>Bond Yield<sup>2</sup></u> (2)	Indicated Risk <u>Premium</u> (3)	Rolling 5 - Year <u>Average</u> (4)	Rolling 10 - Year <u>Average</u> (5)
1	1986	13.46%	9.58%	3.88%		
2	1987	12.74%	10.10%	2.64%		
3	1988	12.85%	10.49%	2.36%		
4	1989	12.88%	9.77%	3.11%		
5	1990	12.67%	9.86%	2.81%	2.96%	
6	1991	12.46%	9.36%	3.10%	2.80%	
7	1992	12.01%	8.69%	3.32%	2.94%	
8	1993	11.35%	7.59%	3.76%	3.22%	
9	1994	11.35%	8.31%	3.04%	3.21%	
10	1995	11.43%	7.89%	3.54%	3.35%	3.16%
11	1996	11.19%	7.75%	3.44%	3.42%	3.11%
12	1997	11.29%	7.60%	3.69%	3.49%	3.22%
13	1998	11.51%	7.04%	4.47%	3.64%	3.43%
14	1999	10.66%	7.62%	3.04%	3.64%	3.42%
15	2000	11.39%	8.24%	3.15%	3.56%	3.45%
16	2001	10.95%	7.76%	3.19%	3.51%	3.46%
17	2002	11.03%	7.37%	3.66%	3.50%	3.50%
18	2003	10.99%	6.58%	4.41%	3.49%	3.56%
19	2004	10.59%	6.16%	4.43%	3.77%	3.70%
20	2005	10.46%	5.65%	4.81%	4.10%	3.83%
21	2006	10.40%	6.07%	4.33%	4.33%	3.92%
22	2007	10.22%	6.07%	4.15%	4.43%	3.96%
23	2008	10.39%	6.53%	3.86%	4.32%	3.90%
24	2009	10.22%	6.04%	4.18%	4.27%	4.02%
25	2010	10.15%	5.47%	4.68%	4.24%	4.17%
26	2011	9.92%	5.04%	4.88%	4.35%	4.34%
27	2012	9.94%	4.13%	5.81%	4.68%	4.55%
28	2013	9.68%	4.48%	5.20%	4.95%	4.63%
29	2014	9.78%	4.28%	5.50%	5.22%	4.74%
30	2015	9.60%	4.12%	5.48%	5.38%	4.81%
31	2016	9.54%	3.93%	5.61%	5.52%	4.94%
32	2017	9.72%	4.00%	5.72%	5.50%	5.09%
33	2018	9.59%	4.25%	5.34%	5.53%	5.24%
34	2019	9.71%	3.77%	5.94%	5.62%	5.42%
35	2020	9.46%	3.05%	6.41%	5.80%	5.59%
36	2021	9.56%	3.10%	6.46%	5.97%	5.75%
31	2022 -	9.42%	4.41%	5.01%	5.83%	5.67%
38	Average	10.83%	6.54%	4.28%	4.26%	4.23%
39	Minimum				2.80%	3.11%
40	Maximum				5.97%	5.75%

Sources: <sup>1</sup> *Regulatory Research Associates, Inc.*, Regulatory Focus, Major Rate Case Decisions, Jan. 1997 p. 5, and Jan. 2011 p. 3. S&P Global Market Intelligence, RRA Regulatory Focus, Major Rate Case Decisions, January - September 2022 October 31, 2022, p. 4.

<sup>2</sup> Mergent Public Utility Manual, Mergent Weekly News Reports, 2003.

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IN THE MATTER OF THE APPLICATION OF VEOLIA WATER IDAHO INC. FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR WATER SERVICE IN ) THE STATE OF IDAHO

) CASE NO. VEO-W-22-02

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT NO. 414 TO ACCOMPANY THE

#### **Bond Yield Spreads**

		Public Utility Bond				Corporate Bond				Utility to Corporate		
		T-Bond			A-T-Bond	Baa-T-Bond			Aaa-T-Bond	Baa-T-Bond	Baa	A-Aaa
<u>Line</u>	Year	Yield <sup>1</sup> (1)	<u>A</u> <sup>2</sup> (2)	<u>Baa<sup>2</sup></u> (3)	Spread (4)	Spread (5)	<u>Aaa<sup>3</sup></u> (6)	<u>Baa<sup>3</sup></u> (7)	Spread (8)	Spread (9)	Spread (10)	Spread (11)
1	1980	11.30%	13.34%	13.95%	2.04%	2.65%	11.94%	13.67%	0.64%	2.37%	0.28%	1.40%
2	1981	13.44%	15.95%	16.60%	2.51%	3.16%	14.17%	16.04%	0.73%	2.60%	0.56%	1.78%
3	1982	12.76%	15.86%	16.45%	3.10%	3.69%	13.79%	16.11%	1.03%	3.35%	0.34%	2.07%
4	1983	11.18%	13.66%	14.20%	2.48%	3.02%	12.04%	13.55%	0.86%	2.38%	0.65%	1.62%
5	1984	12.39%	14.03%	14.53%	1.64%	2.14%	12.71%	14.19%	0.32%	1.80%	0.34%	1.32%
6	1985	10.79%	12.47%	12.96%	1.68%	2.17%	11.37%	12.72%	0.58%	1.93%	0.24%	1.10%
7	1986	7.80%	9.58%	10.00%	1.78%	2.20%	9.02%	10.39%	1.22%	2.59%	-0.39%	0.56%
8	1987	8.58%	10.10%	10.53%	1.52%	1.95%	9.38%	10.58%	0.80%	2.00%	-0.05%	0.72%
9	1988	8.96%	10.49%	11.00%	1.53%	2.04%	9.71%	10.83%	0.75%	1.87%	0.17%	0.78%
10	1989	8.45%	9.77%	9.97%	1.32%	1.52%	9.26%	10.18%	0.81%	1.73%	-0.21%	0.51%
11	1990	8.61%	9.86%	10.06%	1.25%	1.45%	9.32%	10.36%	0.71%	1.75%	-0.30%	0.54%
12	1991	8.14%	9.36%	9.55%	1.22%	1.41%	8.77%	9.80%	0.63%	1.67%	-0.25%	0.59%
13	1992	7.67%	8.69%	8.86%	1.02%	1.19%	8.14%	8.98%	0.47%	1.31%	-0.12%	0.55%
14	1993	6.60%	7.59%	7.91%	0.99%	1.31%	7.22%	7.93%	0.62%	1.33%	-0.02%	0.37%
15	1994	7.37%	8.31%	8.63%	0.94%	1.26%	7.96%	8.62%	0.59%	1.25%	0.01%	0.35%
16	1995	6.88%	7.89%	8.29%	1.01%	1.41%	7.59%	8.20%	0.71%	1.32%	0.09%	0.30%
17	1996	6.70%	7.75%	8.17%	1.05%	1.47%	7.37%	8.05%	0.67%	1.35%	0.12%	0.38%
18	1997	6.61%	7.60%	7.95%	0.99%	1.34%	7.26%	7.86%	0.66%	1.26%	0.09%	0.34%
19	1998	5.58%	7.04%	7.26%	1.46%	1.68%	6.53%	7.22%	0.95%	1.64%	0.04%	0.51%
20	1999	5.87%	7.62%	7.88%	1.75%	2.01%	7.04%	7.87%	1.18%	2.01%	0.01%	0.58%
21	2000	5.94%	8.24%	8.36%	2.30%	2.42%	7.62%	8.36%	1.68%	2.42%	-0.01%	0.62%
22	2001	5.49%	7.76%	8.03%	2.27%	2.54%	7.08%	7.95%	1.59%	2.45%	0.08%	0.68%
23	2002	5.43%	7.37%	8.02%	1.94%	2.59%	6.49%	7.80%	1.06%	2.37%	0.22%	0.88%
24	2003	4.96%	6.58%	6.84%	1.62%	1.89%	5.67%	6.77%	0.71%	1.81%	0.08%	0.91%
25	2004	5.05%	6.16%	6.40%	1.11%	1.35%	5.63%	6.39%	0.58%	1.35%	0.00%	0.53%
26	2005	4.65%	5.65%	5.93%	1.00%	1.28%	5.24%	6.06%	0.59%	1.42%	-0.14%	0.41%
27	2006	4.87%	6.07%	6.32%	1.20%	1.44%	5.59%	6.48%	0.71%	1.61%	-0.16%	0.48%
28	2007	4.83%	6.07%	6.33%	1.24%	1.50%	5.56%	6.48%	0.72%	1.65%	-0.15%	0.52%
29	2008	4.28%	6.53%	7.25%	2.25%	2.97%	5.63%	7.45%	1.35%	3.17%	-0.20%	0.90%
30	2009	4.07%	6.04%	7.06%	1.97%	2.99%	5.31%	7.30%	1.24%	3.23%	-0.24%	0.73%
31	2010	4.25%	5.47%	5.96%	1.22%	1.71%	4.95%	6.04%	0.70%	1.79%	-0.08%	0.52%
32	2011	3.91%	5.04%	5.57%	1.13%	1.66%	4.64%	5.67%	0.73%	1.76%	-0.10%	0.40%
33	2012	2.92%	4.13%	4.83%	1.21%	1.90%	3.67%	4.94%	0.75%	2.02%	-0.11%	0.46%
34	2013	3.45%	4.48%	4.98%	1.03%	1.53%	4.24%	5.10%	0.79%	1.65%	-0.12%	0.24%
35	2014	3.34%	4.28%	4.80%	0.94%	1.46%	4.16%	4.86%	0.82%	1.52%	-0.06%	0.12%
36	2015	2.84%	4.12%	5.03%	1.27%	2.19%	3.89%	5.00%	1.05%	2.16%	0.03%	0.23%
37	2016	2 60%	3 93%	4 67%	1.33%	2.08%	3.66%	4 71%	1.07%	2 12%	-0.04%	0.27%
38	2017	2.00%	4.00%	1 38%	1 10%	1 / 8%	3 7/%	1 11%	0.85%	1 55%	-0.06%	0.26%
30	2017	2.30%	4.00%	4.67%	1 1 / 10%	1.40%	3 0 3 0/	4.80%	0.82%	1.60%	-0.13%	0.32%
40	2010	2.11/0	9.20/0	4.07 /0	1.14/0	1.50 /0	2.33 /0	4.00 /0	0.02 /0	1.03%	-0.13/0	0.32 /0
40	2019	2.30%	3.11%	4.19%	1.10%	1.0170	3.39%	4.30%	0.01%	1.79%	-0.10%	0.30%
41	2020	1.56%	3.05%	3.44%	1.49%	1.87%	2.53%	3.66%	0.96%	2.10%	-0.22%	0.53%
42	2021	2.05%	3.10%	3.36%	1.05%	1.30%	2.70%	3.39%	0.65%	1.34%	-0.04%	0.40%
43	2022 *	3.12%	4.72%	5.03%	1.60%	1.91%	4.07%	5.07%	0.96%	1.95%	-0.04%	0.65%
44	Average	6.14%	7.62%	8.05%	1.49%	1.91%	6.98%	8.05%	0.84%	1.92%	0.00%	0.65%

Yield Spreads Treasury Vs. Corporate & Treasury Vs. Utility



Sources:

St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/.

The utility yields for the period 1980-2000 were obtained from Mergent Public Utility Manual, Mergent Weekly News Reports, 2003. The utility yields for the period 2001-2009 were obtained from the Mergent Bond Record. The utility yields for the period 2010-2022 were obtained from http://credittends.moodys.com/.

<sup>4</sup> Data represents January - December, 2022.

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The duporate yields for the period yelds/ender obtained from the St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/. The corporate yields from 2010-2022 were obtained from the St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/.

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IN THE MATTER OF THE APPLICATION OF VEOLIA WATER IDAHO INC. FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR WATER SERVICE IN ) THE STATE OF IDAHO

) CASE NO. VEO-W-22-02

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT NO. 415 TO ACCOMPANY THE

## **Treasury and Utility Bond Yields**

lino	Date	Treasury Bond Yield <sup>1</sup>	"A" Rated Utility Bond Yield <sup>2</sup>	"Baa" Rated Utility Bond Yield <sup>2</sup>
	Dute	(1)	(2)	(3)
1	01/20/23	3.66%	5.16%	5.46%
2	01/13/23	3.61%	5.15%	5.44%
3	01/06/23	3.67%	5.28%	5.59%
4	12/30/22	3.97%	5.53%	5.83%
5	12/23/22	3.82%	5.42%	5.72%
6	12/16/22	3.53%	5.15%	5.43%
7	12/09/22	3.56%	5.17%	5.45%
8	12/02/22	3.56%	5.26%	5.54%
9	11/25/22	3.74%	5.46%	5.74%
10	11/18/22	3.92%	5.66%	5.95%
11	11/10/22	4.03%	5.86%	6.16%
12	11/04/22	4.27%	6.05%	6.35%
13	10/28/22	4.15%	5.96%	6.27%
14	Average	3.81%	5.47%	5.76%
15	Spread To Treasury		1.66%	1.95%

Sources:

<sup>1</sup> St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org.

<sup>2</sup> http://credittrends.moodys.com/.

## **Trends in Bond Yields**



Sources:

Mergent Bond Record.

www.moodys.com, Bond Yields and Key Indicators.

St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/

Exhibit No. 415 Case No. VEO-W-22-02 Gorman, Micron Technology, Inc. Page 2 of 3

## Yield Spread Between Utility Bonds and 30-Year Treasury Bonds



Sources:

Mergent Bond Record.

www.moodys.com, Bond Yields and Key Indicators.

St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/

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## **BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION**

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IN THE MATTER OF THE APPLICATION OF VEOLIA WATER IDAHO INC. FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR WATER SERVICE IN ) THE STATE OF IDAHO

) CASE NO. VEO-W-22-02

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT NO. 416 TO ACCOMPANY THE

DIRECT TESTIMONY OF MICHAEL P. GORMAN

## Value Line Beta

<u>Line</u>	<u>Company</u>	<u>Beta</u>
	Water	
1	American States Water Company	0.65
2	American Water Works Company, Inc.	0.90
3	California Water Service Group	0.70
4	Essential Utilities, Inc.	0.95
5	Middlesex Water Company	0.70
6	SJW Group	0.80
	Water Average	0.78
	Gas	
7	Atmos Energy Corporation	0.80
8	New Jersey Resources Corporation	0.95
9	NiSource Inc.	0.85
10	Northwest Natural Holding Company	0.80
11	ONE Gas, Inc.	0.80
12	Southwest Gas Holdings, Inc.	0.90
13	Spire Inc.	0.85
14	UGI Corporation	1.05
15	Gas Average	0.88
16	Total Proxy Group Average	0.83
	Source:	
	The Value Line Investment Survey	

*The Value Line Investment Survey,* November 25, 2022 and January 6, 2023.

				<u> </u>	Offical D	<u>elas</u>							
Line	Company	Average	3Q22	2Q22	1Q22	4Q21	3Q21	2Q21	1Q21	4Q20	3Q20	2Q20	1Q20
	<u> </u>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Watar												
4	Water	0.70	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
1	American States Water Company	0.70	0.05	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
2	American Water Works Company, Inc.	0.71	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
3		0.72	0.05	0.65	0.70	0.65	0.65	0.65	0.65	0.05	0.05	0.05	0.65
4	Essential Utilities, Inc.	0.77	0.95	0.95	N/A	0.95	0.95	0.95	0.95	0.90	0.90	0.90	0.90
5		0.73	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
0	SJW Gloup	0.75	0.00	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.80
	Water Average	0.72	0.77	0.77	0.74	0.77	0.77	0.77	0.77	0.76	0.76	0.76	0.76
	Gas												
7	Atmos Energy Corporation	0.74	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.55
8	New Jersey Resources Corporation	0.82	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.90	0.90	0.65
9	NiSource Inc.	0.72	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.55
10	Northwest Natural Holding Company	0.70	0.80	0.80	0.80	0.85	0.85	0.85	0.80	0.80	0.80	0.80	0.55
11	ONE Gas, Inc.	0.72	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.60
12	Southwest Gas Holdings, Inc.	0.81	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.90	0.90	0.65
13	Spire Inc.	0.73	0.80	0.80	0.85	0.85	0.85	0.85	0.85	1.00	0.80	0.80	0.60
14	UGI Corporation	0.92	1.00	1.05	1.05	1.05	1.05	N/A	N/A	1.00	1.00	0.95	0.75
15	Gas Average	0.77	0.86	0.87	0.89	0.89	0.89	0.87	0.86	0.89	0.86	0.85	0.61
16	Total Proxy Group Average	0.75	0.81	0.82	0.81	0.83	0.83	0.82	0.81	0.83	0.81	0.80	0.69

Value Line Historical Betas

Source: Value Line Software Analyzer

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Value Line <u>Historical Betas</u>

Line	Company	4Q19	3Q19	2Q19	1Q19	4Q18	3Q18	2Q18	1Q18	4Q17	3Q17	2Q17	1Q17	4Q16	3Q16	2Q16	1Q16	4Q15	3Q15	2Q15	1Q15	4Q14	3Q14
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
	Water																						
1	American States Water Company	0.65	0.65	0.65	0.65	0.75	0.75	0.75	0.75	0.80	0.80	0.80	0.80	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
2	American Water Works Company, Inc.	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.70	0.70	0.70	0.70	0.70	0.70
3	California Water Service Group	0.70	0.70	0.70	0.70	0.75	0.75	0.75	0.75	0.80	0.80	0.80	0.80	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.70	0.70
4	Essential Utilities, Inc.	0.65	0.65	0.65	0.65	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.75	0.75	0.75	0.75	0.70	0.70
5	Middlesex Water Company	0.70	0.70	0.70	0.70	0.75	0.75	0.75	0.75	0.80	0.80	0.80	0.80	0.70	0.70	0.70	0.70	0.75	0.75	0.75	0.75	0.70	0.70
6	SJW Group	0.60	0.60	0.60	0.60	0.65	0.65	0.65	0.65	0.75	0.75	0.75	0.75	0.70	0.70	0.70	0.70	0.75	0.75	0.75	0.75	0.85	0.85
	Water Average	0.65	0.65	0.65	0.65	0.70	0.70	0.70	0.70	0.75	0.75	0.75	0.75	0.70	0.70	0.70	0.70	0.72	0.72	0.72	0.72	0.72	0.72
	Water Average	0.05	0.05	0.05	0.05	0.70	0.70	0.70	0.70	0.75	0.75	0.75	0.75	0.70	0.70	0.70	0.70	0.75	0.75	0.75	0.75	0.75	0.75
	Gas																						
7	Atmos Energy Corporation	0.60	0.60	0.65	0.60	0.60	0.60	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.75	0.75	0.80	0.80	0.85	0.85	0.85	0.80	0.80
8	New Jersey Resources Corporation	0.70	0.70	0.70	0.70	0.70	0.70	0.80	0.75	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.85	0.80	0.80	0.80	0.80
9	NiSource Inc.	0.55	0.55	0.55	0.55	0.50	0.55	0.60	0.60	0.60	NMF	0.65	NMF	0.85	0.85	0.85	0.80						
10	Northwest Natural Holding Company	0.60	0.60	0.60	0.65	0.60	0.65	0.70	0.65	0.70	0.70	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.70	0.70	0.70	0.70	0.70
11	ONE Gas, Inc.	0.65	0.65	0.65	0.65	0.65	0.65	0.70	0.70	0.70	0.70	0.70	N/A										
12	Southwest Gas Holdings, Inc.	0.70	0.70	0.70	0.70	0.70	0.75	0.80	0.75	0.80	0.75	0.75	0.75	0.75	0.75	0.75	0.80	0.80	0.85	0.85	0.85	0.85	0.85
13	Spire Inc.	0.65	0.65	0.65	0.65	0.65	0.65	0.70	0.65	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
14	UGI Corporation	N/A	N/A	0.80	0.80	0.80	0.85	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.90	0.85	0.85
15	Gas Average	0.64	0.64	0.66	0.66	0.65	0.68	0.74	0.71	0.74	0.75	0.73	0.75	0.75	0.76	0.77	0.78	0.78	0.82	0.81	0.81	0.79	0.79
16	Total Proxy Group Average	0.64	0.64	0.66	0.66	0.68	0.69	0.72	0.71	0.74	0.75	0.74	0.75	0.73	0.73	0.73	0.74	0.76	0.78	0.77	0.77	0.76	0.76
	Source: Value Line Software Analyzer																						

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#### Value Line Electric Industry Historical Betas

Line	Company	Average	3Q22	2Q22	1Q22	4Q21	3Q21	2Q21	1Q21	4Q20	3Q20	2Q20	1Q20
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Electric												
1	ALLETE. Inc.	0.78	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.85	0.85	0.85	0.60
2	Alliant Energy Corporation	0.74	0.85	0.80	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.80	0.55
3	Ameren Corporation	0.70	0.85	0.80	0.80	0.80	0.85	0.80	0.80	0.85	0.80	0.80	0.50
4	American Electric Power Company, Inc.	0.67	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.50
5	Avangrid, Inc.	0.59	0.85	0.85	0.85	0.85	0.85	0.85	N/A	0.85	0.80	0.80	0.40
6	Avista Corporation	0.77	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.90	0.95	0.60	0.60
7	Black Hills Corporation	0.89	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.65	0.70
8	CenterPoint Energy, Inc.	0.92	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.10	1.15	0.70
9	CMS Energy Corporation	0.68	0.80	0.75	0.80	0.80	0.80	0.80	0.75	0.80	0.80	0.80	0.50
10	Consolidated Edison, Inc.	0.58	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.40
11	Dominion Resources, Inc.	0.70	0.80	0.80	0.85	0.85	0.85	0.85	0.80	0.80	0.80	0.80	0.50
12	DTE Energy Company	0.73	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.90	0.90	0.50
13	Duke Energy Corporation	0.65	0.85	0.85	0.85	0.85	0.90	0.85	0.85	0.85	0.85	0.85	0.45
14	Edison International	0.72	0.95	0.95	0.95	1.00	0.95	0.95	0.95	0.90	0.90	0.55	0.55
15	Entergy Corporation	0.73	0.95	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.60
16	Evergy, Inc.	0.97	0.90	0.90	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.05	NMF
17	Eversource Energy	0.74	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.55
18	Exelon Corporation	0.76	NMF	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.90	0.65
19	FirstEnergy Corp.	0.71	0.85	0.80	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.60
20	Fortis Inc.	0.69	0.70	0.70	0.75	0.75	0.75	0.75	0.75	N/A	0.80	0.80	0.60
21	Hawaiian Electric Industries, Inc.	0.72	0.80	0.85	0.85	0.85	0.80	0.80	0.80	0.80	0.80	0.55	0.55
22	IDACORP, Inc.	0.73	0.80	0.80	0.80	0.85	0.85	0.80	0.80	0.80	0.80	0.50	0.55
23	NextEra Energy, Inc.	0.72	0.95	0.90	0.95	0.90	0.95	0.90	0.90	0.90	0.85	0.85	0.50
24	NorthWestern Corporation	0.73	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.90	0.90	0.55	0.60
25	OGE Energy Corp.	0.94	1.00	1.00	1.05	1.05	1.05	1.05	1.05	1.10	1.05	1.05	0.70
26	Otter Tail Corporation	0.83	0.85	0.85	0.85	0.90	0.90	0.90	0.85	0.85	0.85	0.85	0.70
27	Pinnacle West Capital Corporation	0.71	0.90	0.90	0.90	0.95	0.90	0.90	0.90	0.85	0.85	0.45	0.50
28	PNM Resources, Inc.	0.78	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.90	0.50	0.60
29	Portland General Electric Company	0.74	0.85	0.85	0.90	0.90	0.90	0.90	0.85	0.85	0.85	0.55	0.55
30	PPL Corporation	0.81	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.15	1.10	1.05	0.65
31	Public Service Enterprise Group Incorporated	0.76	0.90	0.90	0.90	0.90	0.95	0.90	0.90	0.90	0.90	0.90	0.60
32	Sempra Energy	0.82	0.95	0.95	0.95	1.00	N/A	0.95	1.00	0.95	0.95	0.65	0.70
33	Southern Company	0.66	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.90	0.90	0.90	0.50
34	WEC Energy Group, Inc.	0.66	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.45
35	Xcel Energy Inc.	0.64	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.75	0.45	0.50
36	Electric Average	0.74	0.89	0.88	0.90	0.90	0.90	0.90	0.89	0.89	0.88	0.77	0.56

Source: Value Line Software Analyzer

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#### Value Line Natural Gas Industry Historical Betas

Line	Company	Average	3Q22	2Q22	1Q22	4Q21	3Q21	2Q21	1Q21	4Q20	3Q20	2Q20	1Q20
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Natural Gas												
1	Atmos Energy Corporation	0.73	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.55
2	Chesapeake Utilities Corporation	0.69	0.80	0.75	0.80	0.80	0.80	N/A	N/A	N/A	N/A	N/A	N/A
3	New Jersey Resources Corporation	0.82	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.90	0.90	0.65
4	NiSource Inc.	0.72	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.55
5	Northwest Natural Gas Company	0.70	0.80	0.80	0.80	0.85	0.85	0.85	0.80	0.80	0.80	0.80	0.55
6	ONE Gas, Inc.	0.72	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.60
7	South Jersey Industries, Inc.	0.87	0.95	1.00	1.00	1.05	1.05	1.05	1.05	1.05	1.00	0.95	0.80
8	Southwest Gas Corporation	0.81	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.90	0.90	0.65
9	Spire Inc.	0.73	0.80	0.80	0.85	0.85	0.85	0.85	0.85	1.00	0.80	0.80	0.60
10	UGI Corporation	0.92	1.00	1.05	1.05	1.05	1.05	N/A	N/A	1.00	1.00	0.95	0.75
11	Natural Gas Average	0.77	0.87	0.87	0.89	0.90	0.90	0.89	0.88	0.91	0.87	0.86	0.63
	Source: Value Line Software Analyzer												

Veolia Water Idaho, Inc.

#### Value Line Water Industry Historical Betas

Line	Company	Average	3Q22	2Q22	1Q22	4Q21	3Q21	2Q21	1Q21	4Q20	3Q20	2Q20	1Q20
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Water												
1	American States Water Company	0.70	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
2	American Water Works Company, Inc.	0.71	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
3	California Water Service Group	0.72	0.65	0.65	0.70	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
4	Essential Utilities, Inc.	0.77	0.95	0.95	N/A	0.95	0.95	0.95	0.95	0.90	0.90	0.90	0.90
5	Middlesex Water Company	0.73	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
6	SJW Group	0.73	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
7	Water Average	0.72	0.77	0.77	0.74	0.77	0.77	0.77	0.77	0.76	0.76	0.76	0.76

Source: Value Line Software Analyzer

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Value	Line	Elect	tric	Industry	
	Histo	rical	Bet	as	

Line	Company	4Q19	3Q19	2Q19	1Q19	4Q18	3Q18	2Q18	1Q18	4Q17	3Q17	2Q17	1Q17	4Q16	3Q16	2Q16	1Q16	4Q15	3Q15	2Q15	1Q15	4Q14
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
	Electric																					
1	ALLETE, Inc.	0.65	0.65	0.65	0.65	0.65	0.70	0.75	0.75	0.80	0.75	0.80	0.80	0.75	0.75	0.75	0.80	0.80	0.80	0.80	0.80	0.80
2	Alliant Energy Corporation	0.60	0.60	0.60	0.65	0.60	0.65	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.75	0.75	0.80	0.80	0.80	0.80	0.80	0.80
3	Ameren Corporation	0.55	0.55	0.60	0.60	0.55	0.60	0.65	0.65	0.70	0.65	0.65	0.70	0.65	0.70	0.75	0.75	0.75	0.75	0.75	0.75	0.75
4	American Electric Power Company, Inc.	0.55	0.55	0.55	0.55	0.55	0.60	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.70	0.70	0.70	0.70	0.70	0.70	0.70
5	Avangrid, Inc.	0.40	0.40	0.40	0.40	0.30	0.30	0.40	0.35	NMF	NMF	NMF	NMF	NMF	N/A							
6	Avista Corporation	0.60	0.60	0.65	0.65	0.65	0.70	0.70	0.75	0.75	0.70	0.70	0.70	0.70	0.75	0.75	0.80	0.80	0.80	0.80	0.80	0.80
7	Black Hills Corporation	0.70	0.75	0.80	0.75	0.80	0.85	0.90	0.90	0.90	0.85	0.85	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95	0.90	0.90
8	CenterPoint Energy, Inc.	0.80	0.80	0.80	0.80	0.85	0.85	0.90	0.85	0.90	0.90	0.85	0.85	0.85	0.80	0.85	0.85	0.85	0.80	0.80	0.80	0.75
9	CMS Energy Corporation	0.50	0.55	0.55	0.55	0.55	0.55	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.70	0.75	0.75	0.70	0.75	0.75	0.70
10	Consolidated Edison, Inc.	0.45	0.45	0.45	0.45	0.45	0.45	0.50	0.50	0.50	0.50	0.50	0.55	0.55	0.55	0.55	0.55	0.60	0.60	0.60	0.60	0.60
11	Dominion Resources, Inc.	0.55	0.55	0.55	0.55	0.60	0.60	0.65	0.65	0.65	0.65	0.65	0.70	0.65	0.70	0.70	0.70	0.78	0.70	0.70	0.70	0.70
12	DTE Energy Company	0.55	0.55	0.55	0.55	0.55	0.60	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.70	0.70	0.75	0.75	0.75	0.75	0.75	0.75
13	Duke Energy Corporation	0.50	0.50	0.50	0.50	0.55	0.55	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.65	0.50	0.60	0.60	0.60	0.60
14	Edison International	0.60	0.60	0.60	0.55	0.60	0.60	0.60	0.65	0.65	0.60	0.60	0.65	0.65	0.70	0.70	0.70	0.70	0.75	0.75	0.75	0.75
15	Entergy Corporation	0.60	0.60	0.60	0.60	0.60	0.60	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.70	0.70	0.70	0.65	0.70	0.70	0.70
16	Evergy, Inc.	NMF	NMF	NMF	NMF	NMF	NMF	N/A														
17	Eversource Energy	0.55	0.60	0.60	0.60	0.60	0.60	0.65	0.65	0.65	0.65	0.65	0.70	0.70	0.70	0.75	0.75	0.75	0.75	0.75	0.75	0.75
18	Exelon Corporation	0.70	0.70	0.70	0.70	0.65	0.65	0.70	0.70	0.70	0.70	0.65	0.70	0.65	0.70	0.65	0.70	0.70	0.65	0.70	0.70	0.70
19	FirstEnergy Corp.	0.65	0.60	0.65	0.65	0.60	0.60	0.65	0.70	0.70	0.65	0.65	0.65	0.65	0.65	0.70	0.65	0.70	0.65	0.70	0.70	0.70
20	Fortis Inc.	0.60	0.65	0.65	0.65	0.60	0.65	0.70	0.70	0.70	0.70	0.65	0.65	0.65	N/A							
21	Hawaiian Electric Industries, Inc.	0.55	0.55	0.60	0.60	0.60	0.65	0.65	0.70	0.70	0.70	0.70	0.70	0.70	0.75	0.75	0.80	0.80	0.80	0.80	0.80	0.80
22	IDACORP, Inc.	0.55	0.60	0.60	0.55	0.60	0.65	0.70	0.70	0.70	0.70	0.75	0.75	0.75	0.75	0.80	0.80	0.80	0.80	0.80	0.80	0.80
23	NextEra Energy, Inc.	0.55	0.55	0.60	0.60	0.60	0.60	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.70	0.70	0.75	0.70	0.75	0.70	0.70
24	NorthWestern Corporation	0.60	0.60	0.60	0.55	0.60	0.65	0.65	0.70	0.70	0.65	0.65	0.70	0.70	0.70	0.70	0.70	0.70	0.75	0.70	0.70	0.70
25	OGE Energy Corp.	0.75	0.80	0.80	0.85	0.85	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.90	0.90	0.95	0.95	0.95	0.90	0.90	0.90	0.90
26	Otter Tail Corporation	0.70	0.65	0.70	0.70	0.75	0.80	0.85	0.85	0.90	0.90	0.90	0.85	0.85	0.85	0.80	0.85	0.85	0.85	0.90	0.90	0.90
27	Pinnacle West Capital Corporation	0.55	0.55	0.55	0.55	0.60	0.65	0.65	0.70	0.70	0.65	0.70	0.70	0.70	0.70	0.75	0.75	0.75	0.70	0.70	0.70	0.70
28	PNM Resources, Inc.	0.60	0.60	0.65	0.65	0.60	0.75	0.70	0.75	0.75	0.75	0.70	0.75	0.75	0.80	0.80	0.80	0.85	0.85	0.85	0.85	0.85
29	Portland General Electric Company	0.60	0.60	0.60	0.60	0.60	0.65	0.65	0.70	0.70	0.70	0.70	0.70	0.70	0.75	0.80	0.80	0.80	0.80	0.80	0.80	0.80
30	PPL Corporation	0.70	0.65	0.70	0.70	0.70	0.70	0.75	0.75	0.75	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.65	0.65	0.65	0.60
31	Public Service Enterprise Group Incorporated	0.65	0.65	0.65	0.65	0.65	0.65	0.70	0.70	0.70	0.70	0.65	0.70	0.70	0.70	0.75	0.75	0.75	0.75	0.75	0.75	0.75
32	Sempra Energy	0.75	0.75	0.75	0.75	0.75	0.75	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.85	0.80	0.80	0.80	0.80	0.75	0.75
33	Southern Company	0.50	0.50	0.50	0.50	0.50	0.50	0.55	0.65	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.60	0.60	0.55	0.60	0.55	0.55
34	WEC Energy Group, Inc.	0.50	0.50	0.50	0.55	0.50	0.55	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.65	0.65	0.70	0.70	0.70	0.70	0.65	0.65
35	Xcel Energy Inc.	0.50	0.50	0.50	0.50	0.55	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.70
36	Electric Average	0.59	0.60	0.61	0.61	0.61	0.64	0.68	0.69	0.70	0.69	0.69	0.70	0.69	0.71	0.73	0.75	0.75	0.74	0.75	0.74	0.74
	Source: Value Line Software Analyzer																					

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	Value Line Natural Gas Industry Historical Betas																					
Line	Company	4Q19	3Q19	2Q19	1Q19	4Q18	3Q18	2Q18	1Q18	4Q17	3Q17	2Q17	1Q17	4Q16	3Q16	2Q16	1Q16	4Q15	3Q15	2Q15	1Q15	4Q14
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
	Natural Gas A times Exercise Composition 0.60 0.60 0.65 0.60 0.60 0.60 0.70 0.70 0.70 0.70 0.70																					
1	Atmos Energy Corporation 0.60 0.60 0.65 0.60 0.60 0.60 0.70 0.70 0.70 0.70 0.70																					
2	Chesapeake Utilities Corporation N/A N/A 0.65 0.70 0.65 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.65 0.65 0.65 0.65 0.65 0.65 0.65 0.6																					
3	Unsubspace   One state   <																					
4	NiSource Inc.	0.55	0.55	0.55	0.55	0.50	0.55	0.60	0.60	0.60	NMF	0.65	NMF	0.85	0.85	0.85						
5	Northwest Natural Gas Company	0.60	0.60	0.60	0.65	0.60	0.65	0.70	0.65	0.70	0.70	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.70	0.70	0.70	0.70
6	ONE Gas, Inc.	0.65	0.65	0.65	0.65	0.65	0.65	0.70	0.70	0.70	0.70	0.70	N/A									
7	South Jersey Industries, Inc.	0.80	0.80	0.80	0.85	0.80	0.75	0.85	0.80	0.85	0.85	0.80	0.80	0.80	0.80	0.80	0.85	0.80	0.85	0.85	0.80	0.80
8	Southwest Gas Corporation	0.70	0.70	0.70	0.70	0.70	0.75	0.80	0.75	0.80	0.75	0.75	0.75	0.75	0.75	0.75	0.80	0.80	0.85	0.85	0.85	0.85
9	Spire Inc.	0.65	0.65	0.65	0.65	0.65	0.65	0.70	0.65	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
10	UGI Corporation	N/A	N/A	0.80	0.80	0.80	0.85	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.90	0.85
11	Natural Gas Average	0.66	0.66	0.68	0.69	0.67	0.69	0.75	0.72	0.75	0.76	0.74	0.75	0.74	0.74	0.75	0.78	0.77	0.80	0.80	0.81	0.78

Source: Value Line Software Analyzer

### Veolia Water Idaho, Inc.

#### Value Line Water Industry Historical Betas

Line	Company	4Q19	3Q19	2Q19	1Q19	4Q18	3Q18	2Q18	1Q18	4Q17	3Q17	2Q17	1Q17	4Q16	3Q16	2Q16	1Q16	4Q15	3Q15	2Q15	1Q15	4Q14
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
	Water																					
1	American States Water Company	0.65	0.65	0.65	0.65	0.75	0.75	0.75	0.75	0.80	0.80	0.80	0.80	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
2	American Water Works Company, Inc.	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.70	0.70	0.70	0.70	0.70
3	California Water Service Group	0.70	0.70	0.70	0.70	0.75	0.75	0.75	0.75	0.80	0.80	0.80	0.80	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.70
4	Essential Utilities, Inc.	0.65	0.65	0.65	0.65	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.75	0.75	0.75	0.75	0.70
5	Middlesex Water Company	0.70	0.70	0.70	0.70	0.75	0.75	0.75	0.75	0.80	0.80	0.80	0.80	0.70	0.70	0.70	0.70	0.75	0.75	0.75	0.75	0.70
6	SJW Group	0.60	0.60	0.60	0.60	0.65	0.65	0.65	0.65	0.75	0.75	0.75	0.75	0.70	0.70	0.70	0.70	0.75	0.75	0.75	0.75	0.85
7	Water Average	0.65	0.65	0.65	0.65	0.70	0.70	0.70	0.70	0.75	0.75	0.75	0.75	0.70	0.70	0.70	0.70	0.73	0.73	0.73	0.73	0.73

Source: Value Line Software Analyzer

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## **BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION**

)

)

IN THE MATTER OF THE APPLICATION OF VEOLIA WATER IDAHO INC. FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR WATER SERVICE IN ) THE STATE OF IDAHO

) CASE NO. VEO-W-22-02

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT NO. 417 TO ACCOMPANY THE

DIRECT TESTIMONY OF MICHAEL P. GORMAN

## **CAPM** Return

<u>Line</u>	<b>Description</b>	Current Market Risk <u>Premium</u> (1)	Normalized Market Risk <u>Premium</u> (2)
1	Risk-Free Rate <sup>1,2</sup>	3.81%	3.80%
2	Risk Premium <sup>3</sup>	7.90%	7.91%
3	Beta <sup>4,5</sup>	0.83	0.75
4	CAPM	10.36%	9.71%

Sources:

<sup>1</sup> Exhibit No. 415.

<sup>2</sup> Blue Chip Financial Forecasts January 1, 2023, at 2.

<sup>3</sup> Kroll 2022 Yearbook, at 146.

<sup>4</sup> Exhibit No. 416, Page 1.

<sup>5</sup> Exhibit No. 416, Page 2.

Exhibit No. 417 Case No. VEO-W-22-02 Gorman, Micron Technology, Inc. Page 1 of 1

## **BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION**

)

)

IN THE MATTER OF THE APPLICATION OF VEOLIA WATER IDAHO INC. FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR WATER SERVICE IN ) THE STATE OF IDAHO

) CASE NO. VEO-W-22-02

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT NO. 418 TO ACCOMPANY THE

DIRECT TESTIMONY OF MICHAEL P. GORMAN

## **Standard & Poor's Credit Metrics**

			Retail				
		Co	st of Service	S&P Ben	chmark (Low V	olatility)	
Line	Description		<u>Amount</u>	Intermediate	Significant	Aggressive	<u>Reference</u>
			(1)	(2)	(3)	(4)	(5)
1	Rate Base	\$	280,756,025				Exhibit No. 9.
2	Weighted Common Return		5.20%				Page 2, Line 2, Col. 4.
3	Pre-Tax Rate of Return		8.83%				Page 2, Line 3, Col. 5.
4	Income to Common	\$	14,588,410				Line 1 x Line 2.
5	EBIT	\$	24,778,086				Line 1 x Line 3.
6	Depreciation & Amortization	\$	10,929,675				Exhibit No. 9.
7	Imputed Amortization	\$	-				Micron 2nd Data Request, Response No. 39.
8	Capitalized Interest*	\$	-				Micron 2nd Data Request, Response No. 31.
9	Deferred Income Taxes & ITC	\$	-				Exhibit No. 9.
10	Funds from Operations (FFO)	\$	25,518,085				Sum of Line 4 and Lines 6 through 9.
11	Imputed Interest Expense	\$	-				Micron 2nd Data Request, Response No. 39.
12	EBITDA	\$	35,707,761				Sum of Lines 5 through 7 and Line 11.
13	Adjusted Debt	\$	124,730,248				Page 2, Line 1, Col. 1.
14	Total Adjusted Debt Ratio		44.4%				Page 2, Line 1, Col 2.
15	Debt to EBITDA		3.5x	3.0x - 4.0x	4.0x - 5.0x	5.0x - 6.0x	Line 13 / Line 12.
16	FFO to Total Debt		20%	13% - 23%	9% - 13%	6% - 9%	Line 10 / Line 13.
17	Indicative Credit Rating			A+/A	A-	BBB	S&P Methodology, November 19, 2013.

Sources:

Standard & Poor's: "Criteria: Corporate Methodology," November 19, 2013.

#### Note:

Based on the May 2022 S&P report, VUR has an "A" credit rating, an "Excellent" business profile, and an "Intermediate" financial profile, a "Stable" outlook and falls under the 'Low Volatility' matrix.

S&P Business/Financial Risk Profile Matrix							
Business Risk	Financial Risk Profile						
Profile	3 (intermediate)	4 (significant)	5 (aggressive)				
1 (excellent)	a+/a	a-	bbb				
2 (strong)	a-/bbb+	bbb	bb+				
3 (satisfactory)	bbb/bbb-	bbb-/bb+	bb				

## Standard & Poor's Credit Metrics (Pre-Tax Rate of Return)

<u>Description</u>		<u>Amount</u> (1)	<u>Weight</u> (2)	<u>Cost</u> (3)	<u>Cost</u> (4)	<u>Cost</u> (5)
ong-Term Debt	\$	124,730,248	44.43%	3.99%	1.77%	1.77%
ommon Equity	\$	156,025,777	<u>55.57%</u>	9.35%	<u>5.20%</u>	<u>7.05%</u>
otal	\$	280,756,025	100.00%		6.97%	8.83%
	Description ong-Term Debt ommon Equity otal	Description   ong-Term Debt \$   ommon Equity \$   otal \$	Description   Amount (1)     ong-Term Debt   \$ 124,730,248     ommon Equity   \$ 156,025,777     otal   \$ 280,756,025	Description   Amount (1)   Weight (2)     ong-Term Debt   \$ 124,730,248   44.43%     ommon Equity   \$ 156,025,777   55.57%     otal   \$ 280,756,025   100.00%	Description   Amount (1)   Weight (2)   Cost (3)     ong-Term Debt   \$ 124,730,248   44.43%   3.99%     ommon Equity   \$ 156,025,777   55.57%   9.35%     otal   \$ 280,756,025   100.00%   100.00%	Description   Amount (1)   Weight (2)   Cost (3)   Cost (4)     ong-Term Debt   \$ 124,730,248   44.43%   3.99%   1.77%     ommon Equity   \$ 156,025,777   55.57%   9.35%   5.20%     otal   \$ 280,756,025   100.00%   6.97%

4 Tax Conversion Factor\*

1.35733

Sources:

VWID Exhibit No. 1, Schedule 1 and Exhibit No. 6. \*Exhibit No. 9.

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## S&P Adjusted Debt Ratio (Operating Subsidiaries of Value Line Electric, Gas and Water Utilities) (Industry Medians)

	_	% Distribution of 3 Year Average					
<u>Rating</u>	Average	<u>&lt;45</u>	<u>45 to 50</u>	<u>50 to 55</u>	<u>&gt;55</u>		
AA-	43.6%	67%	33%	0%	0%		
A+	52.7%	18%	36%	0%	45%		
А	48.5%	26%	41%	15%	19%		
A-	52.4%	7%	24%	39%	30%		
BBB+	52.0%	9%	29%	39%	23%		
BBB	48.6%	30%	23%	30%	17%		

Source:

S&P Capital IQ, downloaded June 7, 2022.

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