TAB 22

807 KAR 5:001 Section 16(7)(a)

Direct Testimony of

Vincent V. Rea

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the matter of:	)	
	)	Case No. 2026-00099
ELECTRONIC APPLICATION OF COLUMBIA GAS OF KENTUCKY, INC. FOR AN ADJUSTMENT OF RATES; APPROVAL OF DEPRECIATION STUDY; APPROVAL OF TARIFF REVISIONS; AND OTHER RELIEF	)	

PREPARED DIRECT TESTIMONY OF VINCENT V. REA ON BEHALF OF COLUMBIA GAS OF KENTUCKY, INC.

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May 20, 2026

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:	)	
	)	
ELECTRONIC APPLICATION OF	)	Case No. 2026-00099
COLUMBIA GAS OF KENTUCKY, INC.	)	
FOR AN ADJUSTMENT OF RATES;	)	
APPROVAL OF DEPRECIATION STUDY;	)	
APPROVAL OF TARIFF REVISIONS; AND	)	
OTHER RELIEF	)	

VERIFICATION OF VINCENT V. REA

STATE OF NORTH CAROLINA)
)
COUNTY OF MOORE)

Vincent V. Rea, Managing Director of Regulatory Finance Associates, LLC, being duly sworn, states that he has drafted and/or supervised the preparation of testimony and certain standard filing requirements in the above-referenced case and that the matters and things set forth therein are true and accurate to the best of his knowledge, information and belief, formed after reasonable inquiry.

Vincent V. Rea

The foregoing Verification was signed, acknowledged and sworn to before me this 15 day of May 2026, by Vincent V. Rea.

STEPHEN W SIKES
NOTARY PUBLIC
Moore County
North Carolina
My Commission Expires October 26, 2028

Notary Commission No. 20185799006

Commission expiration: 10-26-28

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ACRONYMS AND DEFINED TERMS

ACRONYM	DEFINED TERM
β	Beta
CAPM	Capital Asset Pricing Model
CKY	Columbia Gas of Kentucky, Inc.
DCF	Discounted Cash Flow Model
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortization
FFO	Funds from Operations
FOMC	Federal Open Markets Committee
g	Growth Rate (perpetual)
GDP	Gross Domestic Product
M&M	Modigliani and Miller
PUHCA	Public Utility Holding Company Act of 2005
QE	Quantitative Easing
Rf	Risk-Free Rate of Return
Rm	Expected return for the overall stock market
ROE	Return on Equity
RPM	Risk Premium Method

ACRONYM	DEFINED TERM
SMRP	Safety Modernization and Replacement Program
S&P	Standard & Poor's
SURFA	Society of Utility and Regulatory Financial Analysts
WACC	Weighted Average Cost of Capital

I. INTRODUCTION

Q: Please state your name, occupation and business address.

A: My name is Vincent V. Rea. I currently serve as Managing Director of Regulatory Finance Associates, LLC, an independent financial and regulatory consulting firm. My business address is 80 Blake Boulevard, #4572, Pinehurst, NC 28374.

Q: Please describe your professional experience.

A: Prior to moving into my current position, I served as Director, Regulatory Finance and Economics for NiSource Corporate Services Company. In this position, I provided expert testimony and other regulatory support on behalf of NiSource's utility subsidiaries with regard to the cost of equity, overall fair rate of return, and ratemaking capital structure. Prior to serving as Director, Regulatory Finance and Economics, I served as Assistant Treasurer for both Columbia Gas of Kentucky, Inc. ("Columbia" or "the Company") and its ultimate parent company, NiSource. In the capacity of Assistant Treasurer, I was responsible for the external capital raising activities and banking activities for NiSource, for inter-company financing activities among all NiSource subsidiaries (including Columbia), and also provided regulatory support and testimony for utility rate proceedings and financing petitions. My educational background, professional experience and other qualifications are presented in greater detail in Attachment VVR-1, which follows my direct testimony.

Q: Please describe your educational background.

A: I hold an M.B.A. in Finance from Indiana University, Bloomington, Indiana, and a B.A. with honors distinction in Business Administration from Lake Forest College, Lake Forest, Illinois.

Q: Do you hold any professional designations?

A: Yes. I have been awarded the designation of Certified Rate of Return Analyst ("CRRA") by the Society of Utility and Regulatory Financial Analysts ("SURFA"), and I am also a registered Certified Public Accountant ("CPA") in the State of Illinois.

Q: What is the purpose of your direct testimony in this proceeding?

A: My direct testimony presents supporting evidence, analysis and a recommendation concerning the appropriate rate of return on common equity and overall rate of return that the Public Service Commission of Kentucky (the "Commission") should establish for Columbia in relation to its revenue requirement calculation. My recommendations are supported by the detailed financial information and comprehensive analyses presented within my testimony.

Q: Are you sponsoring any attachments through your direct testimony?

A: Yes. The table below lists the attachments that I am sponsoring through my testimony, and includes a brief description of each attachment:

Attachment	Description
Attachment VVR-1	Professional Qualifications of Vincent V. Rea
Attachment VVR-2	W.A.C.C. and Fair Rate of Return
Attachment VVR-3	Comparative Risk Assessment
Attachment VVR-4	Analysis of Regulatory Mechanisms
Attachment VVR-5	Capitalization and Capital Structure Ratios
Attachment VVR-6	Embedded Cost of Long-Term Debt
Attachment VVR-7	DCF Method - Gas LDC Group
Attachment VVR-8	DCF Method - Combination Utility Group
Attachment VVR-9	DCF Method - Non-Regulated Group
Attachment VVR-10	Capital Asset Pricing Model
Attachment VVR-11	Risk Premium Method

I am also sponsoring Filing Requirements KAR 5:001 Sections 16(7)(c), 16(7)(h), 16(7)(h)11, 16(7)(j), 16(8)(j), and 16(8)(k).

Q: Were these attachments and Filing Requirements prepared either by you or someone working under your supervision?

A: Yes.

II. SUMMARY OF RECOMMENDATIONS

Q: Based upon your comprehensive analyses and supporting evidence, what have you concluded with respect to the appropriate return on equity for Columbia in this proceeding?

A: Based upon my comprehensive evaluation, I have concluded that Columbia's cost of common equity is presently in the range of 10.55 percent to 11.05 percent. Based on measures of central tendency for this range estimate, I have further concluded that the appropriate point estimate of Columbia's cost of equity in the current

market environment is 10.95 percent.

Based upon this finding, and as reflected in Attachment VVR-2, I have also determined that the Company's weighted average cost of capital is 8.15 percent, which is based upon Columbia's thirteen-month average capital structure and cost of debt for the fully forecasted test period ending December 31, 2027, as reflected within Attachment VVR-5 and Attachment VVR-6, respectively. This resulting overall cost of capital, if adopted by the Commission, will allow Columbia to earn the prevailing opportunity cost of capital, maintain its financial integrity, and attract capital at reasonable terms.

Q: What general approach have you taken in determining the cost of common equity in this proceeding?

A: To properly estimate CKY's cost of equity, I have analyzed market-derived data and other financial information for each of the seven companies comprising the Gas LDC Group. Accordingly, my cost of equity recommendations in this proceeding are based entirely upon the results of my quantitative and qualitative evaluations for the Gas LDC Group, as the business activities of these seven companies most closely parallel the gas distribution operations of the Company.

In addition, to provide a further check on the reasonableness of the cost of equity estimates developed for the Gas LDC Group, I have also evaluated two complementary proxy groups, including a group of combination gas and electric

utilities (the "Combination Group") and a group of non-rate-regulated companies (the "Non-Regulated Group"). Both of these proxy groups have investment risk profiles that are comparable to the Gas LDC Group and therefore provide a reasonable basis for corroborating the results yielded for the Gas LDC Group. In total, I evaluated the market and financial data of 24 companies, including seven companies comprising the Gas LDC Group, eight companies comprising the Combination Utility Group, and nine companies comprising the Non-Regulated Group. I will discuss the selection criteria I utilized in developing each of these proxy groups later in my testimony.

During the course of my evaluation, I applied three well-recognized analytical models to the market and/or financial data of the selected proxy group companies. These models include the Discounted Cash Flow ("DCF") model, Capital Asset Pricing Model ("CAPM"), and Risk Premium Method ("RPM"). In addition, I have evaluated two other model variants of the CAPM, specifically, the "CAPM with size adjustment," and the Empirical CAPM ("ECAPM"), both of which have been validated by empirical research.

Using the multi-faceted analytical approach described above, my evaluation for the Gas LDC Group resulted in five individual estimates of the cost of equity for the Company, which provided the basis upon which I developed my

cost of equity recommendations in this proceeding. However, to provide a further check on these results, I compared the five individual estimates for the Gas LDC Group with the ten individual estimates derived for the Combination Utility Group and the Non-Regulated Group. In conducting this comparison, I determined that the range of cost of equity estimates developed for the Combination Utility Group and the Non-Regulated Group are comparable to the results yielded for the Gas LDC Group, thereby corroborating my cost of equity estimates for the Gas Group.

Q: Specifically, how did you complete your cost of equity analyses using the market-derived data and other financial information for the three respective proxy groups?

A: With respect to the DCF analyses, I evaluated the proxy group companies on an individual basis, which resulted in a separate cost of equity estimate for each company. By taking this approach, the analyst can identify anomalous or "outlier" results at the individual company level which do not pass fundamental tests of reasonableness and economic logic. I generally will eliminate these outlier results from further consideration, based upon both "high-end" and "low-end" outlier

thresholds established by regulatory precedent.[1] The fundamental advantage of employing this approach is that it removes the effects of anomalous results from the cost of equity evaluation process. In my judgment, this approach is clearly preferable to the "total group approach," which simply averages the data of all proxy group companies, irrespective of whether outlier results are included or not. As such, the total group approach effectively "blends in" the effects of anomalous results into the cost of equity evaluation process.

Notwithstanding the foregoing, with respect to the CAPM and RPM analyses, the respective proxy groups were evaluated on a group average basis rather than on an individual company basis. This is necessary because virtually all of the input variables into these two analytical models are non-company specific variables (i.e. risk-free rate of return, corporate bond yields for a certain credit rating, market rate of return, etc.), with the sole exception of beta, meaning that under these two approaches, company-specific input anomalies will have less of an impact on the cost of equity estimate as compared to the other analytical methods.

[1] See FERC Opinion No. 569, 169 FERC ¶, 61,129, at P. 387 (Nov. 21, 2019), FERC Opinion No. 569-A, 171 FERC ¶ 61,154, at P.154 (May 21, 2020), and FERC Opinion No. 569-B, 173 FERC ¶ 61,159, at P.140 (Nov. 19, 2020).

Q: In conducting your cost of equity evaluation, have you considered the concerns expressed by the Commission in its Order from Columbia's last rate proceeding (Case No. 2024-00092) with respect to the elimination of outlier results?

A: Yes, I have. In Columbia's last rate order (Case No. 2024-00092) the Commission cautioned all parties against "unreasonably removing or ignoring 'outlier' data due to a perception of being 'too high' or 'too low'", and further indicated that "Results based upon excluded data without adequate support will be given less weight in Commission determinations".[2] It is important to recognize that the elimination of outlier results would typically only apply to the cost of equity estimates developed under a DCF model analysis. While I agree that the Commission's concerns in this regard are well-founded, I would also note that the primary responsibility of the cost of capital witness is to develop cost of equity estimates which pass fundamental tests of reasonableness and economic logic, whereby the risk-and-return trade-off proposition, as reflected in the expectations of investors, is appropriately recognized. Therefore, to the extent that the cost of equity analytical models (and most specifically the DCF model) produce estimates that are comparable to the utility's bond yields, or even more problematic, produce

[2] Case No. 2024-00092, *Electronic Application of Columbia Gas of Kentucky, Inc. for an Adjustment of Rates; Approval of Depreciation Study; Approval of Tariff Revisions; and Other Relief* (Ky. PSC, Dec. 30, 2024), Order at 42.

negative cost of equity estimates, it is reasonable to conclude that a prudent investor would reject such investments and seek alternative investment options that appropriately recognize the risk-and-return investment principle.

It is well-established in the finance literature that when the risk profile of a given investment increases, investors will demand a commensurately higher rate of return. This classic "risk-and-return" relationship explains why investors demand a higher return for investing in common stocks versus investing in corporate or utility debt securities. In those circumstances where the equity risk premium offered by a given stock investment does not provide sufficient compensation for bearing the additional risks associated with common stocks, investors will seek a superior risk-return tradeoff elsewhere by either investing in the company's fixed-income securities, or in another company's common stock. This is the case because investors cannot reasonably be expected to invest in common stocks if they are unable to earn a minimally sufficient equity risk premium as compensation for the additional risks they bear, vis-à-vis fixed income securities. Under these circumstances, investors would clearly show a preference for either holding the company's fixed-income securities or another company's common stock, making it more difficult for the company to attract new equity capital.

For the above stated reasons, and to recognize the concerns expressed by the Commission in Case No. 2024-00092, I have developed my DCF-based cost of equity estimates showing the DCF results both with and without the additional step of eliminating outlier results. This can be seen in Attachment VVR-7 (pp. 1-2), Attachment VVR-8 (pp. 1-2) and Attachment VVR-9 (pp. 1-2) to my direct testimony. Although my cost of equity recommendations in this proceeding were developed on the basis of those estimates which, in my judgment, pass fundamental tests of reasonableness and economic logic, the aforementioned attachments also reflect DCF-based estimates of the cost of equity where all of the estimates have been included.[3]

Q: Please identify any low-end and/or high-end outlier estimates in conducting your DCF model analyses for the respective proxy groups that you evaluated.

A: My DCF analysis for the Gas LDC Group, which is my core proxy group in this proceeding, identified one low-end outlier estimate for Southwest Gas Holdings, which is a cost of equity estimate of *negative* -20.0 percent. With respect to the complementary proxy groups I evaluated, my DCF analysis for the Combination Utility Group identified two outlier estimates on the low side, an estimate of 5.90

[3] This includes cost of equity estimates that are more in line with currently available returns on fixed-income securities or estimates that are lower than the returns currently available on fixed income securities.

percent for Avista Corp. and a 6.80 percent estimate for Consolidated Edison. My DCF analysis for the Non-Regulated Group also identified a number of outlier estimates, both on the low side and the high side

Q: What are the results of your cost of equity evaluation for the Gas LDC Group?

A: The five individual estimates of the cost of equity yielded from my evaluation of the Gas LDC Group are reflected in Table VVR-1 below.

Table VVR-1
Cost of Equity Estimates for CKY
Analytical Model Results
Gas LDC Group

Method/Model	Gas LDC Group
DCF	11.04%
Traditional CAPM	10.52%
CAPM (w/size adj.)	10.89%
ECAPM	10.90%
Risk Premium	11.00%

As can be seen in Table VVR-1 above, these individual estimates of the cost of equity range from 10.52 percent to 11.04 percent, with a midpoint value of 10.78 percent. A further analysis of the above individual model results yielded the following measures of central tendency for each of the models or methods employed, which I present in Table VVR-2 below.

Table VVR-2 Cost of Equity Estimates for CKY Measures of Central Tendency Gas LDC Group	
Median DCF Result	11.04%
Average DCF Result	11.04%
Median CAPM Result	10.89%
Average CAPM Result	10.77%
Median RPM Result	11.00%
Average RPM Result	11.00%

Based upon these measures of central tendency, I have concluded that an appropriate point estimate of CKY's cost of equity in the instant proceeding is 10.95 percent, and therefore recommend that the Commission adopt a cost of equity of 10.95 percent in the determination of the overall fair rate of return for the Company.

Q: Did the quantitative evaluation you conducted for the Combination Utility Group and the Non-Regulated Group yield cost of equity estimates that further corroborated your results for the Gas LDC Group, thereby providing a check of reasonableness on the results developed for the Gas LDC Group?

A: Yes, they did. The 10 individual estimates of the cost of equity yielded through my evaluation of the Combination Utility Group and the Non-Regulated Group are presented in Table VVR-3 below.

Table VVR-3 Analytical Model Results Complementary Proxy Groups		
Method/Model	**Comb. Utility Group**	**Non-Reg. Group**
DCF	10.24%	10.64%
Traditional CAPM	10.39%	10.31%
CAPM (w/size adj.)	10.66%	10.32%
ECAPM	10.80%	10.74%
Risk Premium	10.94%	10.52%

These results reflect a range of cost of equity estimates of between 10.24 percent and 10.94 percent, with a midpoint value of 10.59 percent, which is comparable to the results yielded for the Gas LDC Group.[4]

A further analysis of the above individual model results yielded the following measures of central tendency for each of the models employed in evaluating the Combination Utility Group and the Non-Regulated Group, which I present in Table VVR-4 below.

[4] More specifically, as reflected in Table VVR-1 presented earlier, the individual cost of equity results yielded for the Gas LDC Group range from 10.52 percent to 11.04 percent, with a midpoint value of 10.78 percent.

Table VVR-4 Measures of Central Tendency for the Complementary Proxy Groups	
Median DCF Result	10.44%
Average DCF Result	10.44%
Median CAPM Result	10.53%
Average CAPM Result	10.54%
Median RPM Result	10.73%
Average RPM Result	10.73%

These results further corroborate the reasonableness of the cost of equity results yielded for the Gas LDC Group, particularly in view of the fact that the Combination Utility Group and Non-Regulated Group have slightly lower investment risk profiles as compared to the Gas LDC Group.

Further support for the foregoing individual estimates of the cost of equity can be found in Table VVR-7, Table VVR-8, Table VVR-9, Table VVR-11 and Table VVR-12, which appear later in my testimony.

III. FUNDAMENTAL ANALYSIS

A. Background

Q: What background information have you considered in evaluating Columbia's cost of common equity and overall required rate of return?

A: Columbia provides natural gas services to approximately 139,000 residential, commercial, and transportation customers across 30 counties in central and eastern Kentucky. During 2025, the Company's total gas throughput[5] was divided among the following customer classes: 21.4 percent residential; 14.6 percent commercial, industrial and other; and 64.0 percent transportation customers. Considering that approximately 78.6 percent of the Company's gas throughput volumes relate to serving commercial, industrial and transportation customers, a very high proportion of Columbia's gas throughput is susceptible to downturns in the U.S. economic cycle. Moreover, approximately 58.1 percent of Columbia's gas throughput to transportation customers is concentrated among just five customers, which exposes Columbia to a higher level of business risk. Additionally, Columbia's significantly higher allocation of gas throughput to industrial and transportation customers, as well as the Company's high customer concentration level, also causes the Company to be more vulnerable to the threat

[5] Total gas throughput, as based on billed revenues.

of bypass.

The Company is a wholly-owned subsidiary of NiSource Gas Distribution Group, Inc., which, in turn, is a subsidiary of NiSource, a holding company under the Public Utility Holding Company Act of 2005. NiSource's headquarters are located in Merrillville, Indiana, and its core operating companies engage in natural gas distribution, as well as electric generation, transmission and distribution. NiSource operating companies deliver energy to nearly 4.0 million gas and electric customers in six states.

B. Overview of Current Economic and Capital Markets Conditions

Q: Please provide a brief overview of recent trends in the U.S. economy and capital markets.

A: During early 2026, the U.S. economy and capital markets have been materially impacted by higher levels of volatility for artificial intelligence ("AI") related stocks, and more recently, by the ongoing conflict between the U.S. and the Republic of Iran. The combined effects of these two developments have resulted in significant volatility in the U.S. equity market, particularly as reflected in technology-heavy market indices such as the S&P 500 Information Technology Sector, which declined 9.13 percent during the first quarter of 2026[6]. These effects spilled-over into the broader U.S equity market, with the S&P 500 Composite

[6] Source of data: *S&P Dow Jones Indices*, A Division of S&P Global (www.spglobal.com), accessed April 15, 2026.

Index declining 4.33 percent during the first quarter of 2026.[7] At the same time, the S&P 500 Utilities Sector moved in the opposite direction during this same period, rising by 8.26 percent[8], and thus reflecting a safe-haven alternative for weary equity investors. Nevertheless, the impacts of the war continue to create volatility in U.S. financial markets.

Amid these recent developments, the U.S. economy has showed signs of slower growth during Q1, 2026, with the most recent GDPNow forecast released by the Federal Reserve Bank of Atlanta reflecting a real GDP growth rate of 1.3 percent for Q1, 2026. Although this forecasted growth rate is higher than the 0.5 percent real GDP growth rate reported for Q4, 2025, it is materially lower than the 2.1 percent GDP growth rate reported for 2025 (full-year) and the 2.8 percent GDP growth rate reported for 2024 (full-year).

Meanwhile, even though the U.S. jobs market has also recently been showing signs of a weakening U.S. economy, the U.S. Labor Department reported the best month for job growth creation in over a year during March 2026, when 178,000 new jobs were added to the U.S. economy. The strong rebound in the jobs market during March 2026 was welcomed news considering that the U.S. economy had previously lost 133,000 jobs during February 2026. Despite the month-to-month

[7] *Id.*
[8] *Id.*

volatility in jobs creation during the first quarter of 2026, the U.S. unemployment rate declined from 4.4 percent during February 2026 to 4.3 percent during March 2026. Even so, it is important to note that the March 2026 jobs report does not fully reflect the most recent effects of the U.S. - Iran war on the hiring decisions of U.S. employers.

With regard to the U.S. inflation rate, the U.S. Labor Department recently reported that the 12-month change in the Consumer Price Index ("CPI") for the period ending March 2026 was 3.3 percent, the largest increase seen in the 12-month CPI during the past two years. Without question, a significant factor affecting the most recent rise in CPI has been the U.S. - Iran conflict, and particularly the resulting de facto closure of the Strait of Hormuz, which has resulted in significantly higher global energy costs in recent months. At the same time, the 12-month change in the Core CPI Index, which excludes volatile food and energy prices, reflected a more moderate increase of 2.6 percent, which remains relatively close to the Fed's targeted inflation rate of 2.0 percent.

Q: What monetary policy actions did the Fed take during calendar year 2025?

A: During 2025, the Fed elected to reduce the Federal Funds target rate by a cumulative amount of 0.75 percent (75 basis points), from a targeted rate of 4.25-4.50 percent to 3.50-3.75 percent. The Fed implemented these rate reductions in three steps, which included a 25-basis point reduction announced after the central

bank's September 16-17, 2025 FOMC meeting, an additional 25 basis point reduction announced after the Fed's October 28-29, 2025 FOMC meeting, and another additional 25 basis point reduction announced after the Fed's December 9-10, 2025 FOMC meeting.

Q: What monetary policy actions has the Fed taken thus far during calendar-year 2026?

A: In both the Fed's January 27-28, 2026 and March 17-18, 2026 FOMC meetings, the Fed elected to maintain the Federal Funds target rate at 3.50 - 3.75 percent. In the Fed's press release issued after its March 2026 FOMC meeting, the central bank explained the rationale behind its decision to maintain the Federal Funds target rate at its current level, pointing to solid levels of economic growth, still somewhat elevated U.S. inflation, and the economic uncertainties surrounding the U.S. - Iran conflict, stating the following:

> Available indicators suggest that economic activity has been expanding at a solid pace. Job gains have remained low, and the unemployment rate has been little changed in recent months. Inflation remains somewhat elevated.
>
> The Committee seeks to achieve maximum employment and inflation at the rate of 2 percent over the longer run. Uncertainty about the economic outlook remains elevated. *The implications of developments in the Middle East for the U.S. economy are uncertain.* The Committee is attentive to the risks to both sides of its dual mandate.

In support of its goals, the Committee decided to maintain the target range for the federal funds rate at 3-1/2 to 3-3/4 percent.[9]

Q: What monetary policy actions is the Fed expected to take over the near-to-intermediate term horizon?

A: The Fed's monetary policy path forward remains unclear. Although the U.S. Senate recently confirmed President Trump's Fed Chair nominee Kevin Warsh, who appears to largely support the President's well-publicized push for additional Fed rate reductions, it remains uncertain as to whether the remaining FOMC voting members will be amenable to further rate reductions in the current market environment. Moreover, to the extent that the U.S. - Iran conflict remains largely unresolved, leading to a further escalation in global energy prices, this would likely result in broader inflationary implications for the U.S. economy, affecting not only the CPI but also the Core CPI Index. To the extent that the risk of rapidly escalating inflation becomes more of a concern for the Fed than the data showing a general slowdown in the U.S. economy, it is conceivable that the Fed may be more inclined to begin *raising* the Fed Funds target rate rather than reducing it, in order to get ahead of any further increases in the U.S. inflation rate.

[9] *Federal Reserve Issues FOMC Statement* (March 18, 2026), at 1 (emphasis added). Available at www.federalreserve.gov.

As it relates to the long-term capital costs of regulated utilities in the U.S., the Fed's periodic adjustments to the Federal Funds target rate, which focuses on the short-end of the fixed-income yield curve, would be expected to have a relatively minor impact on the long-end of the yield curve. Such being the case, what is more important from the perspective of regulated utilities is the potential impact that a protracted U.S.-Iran conflict could have on global energy prices, and therefore on the broader U.S. inflation rate, which would ultimately be priced into long-term capital costs in both the debt and equity markets.

Q: After evaluating the recent trends in the U.S. economy and capital markets, what conclusions have you arrived at, particularly as it relates to the Company's long-term capital costs for purposes of the instant proceeding?

A: Notwithstanding the Fed's recent policy action reductions to the Federal Funds target rate during the second half of 2025, long-term capital costs have nevertheless continued to increase materially over the past two years. In this regard, it is important to recognize that longer-term U.S. Treasury security yields are materially higher in the current market environment as compared to the levels recorded at the time of the Company's May 2024 rate case filing (Case No. 2024-00092). The same is true of utility bond yields, which are also materially higher in the current market environment as compared to the levels recorded at the time of the Company's 2024 rate case filing.

Q: To what extent have long-term interest rates increased since the Company filed its last base rate case?

A: Long-term interest rates in the U.S. have continued to trend higher over the past few years and remain higher today than during the period immediately preceding the Company's last rate case filing. More specifically, since the first quarter of calendar-year 2024, the average 30-year U.S. Treasury bond yield, which is a proxy for long-term capital costs, has increased by approximately 49 basis points, from 4.33 percent[10] to 4.82 percent[11] during the first quarter of calendar-year 2026.

Q: Have long-term utility bond yields also trended materially higher since the first quarter of calendar-year 2024?

A: Yes. The average "A-rated" long-term utility bond yield increased from 5.53 percent[12] during the first quarter of calendar-year 2024 to 5.70 percent[13] during the first quarter of calendar-year 2026, thus reflecting an increase of 17 basis points. During the same period, the average "Baa-rated" long-term utility bond yield increased from 5.77 percent[14] to 5.88 percent[15], respectively, reflecting an increase of 11 basis points. This comparative data strongly suggests that other long-term

[10] Source of data: www.federalreserve.gov.
[11] *Id.*
[12] Source of data: Mergent Bond Record, April 2026 Edition, at 114-115.
[13] *Id.*
[14] *Id.*
[15] *Id.*

capital costs, including CKY's cost of equity, have also risen materially since the Company's last base rate case filing during May 2024.

Q: Does your cost of equity recommendation in this proceeding reflect the aforementioned recent changes seen in the U.S. economy and capital markets?

A: Yes. My cost of equity recommendation of 10.95 percent in this proceeding reflects the upward trend in long-term capital costs since the time of the Company's last base rate proceeding. That said, it is also important to recognize that to the extent the U.S. - Iran conflict was to continue to escalate going forward, this would likely result in further upward pressure on the long-term capital costs of regulated utilities due to both widening risk premiums and higher inflationary expectations.

C. Comparative Risk Assessment of Proxy Groups

Q: Why is it necessary to analyze groups of proxy companies to estimate the cost of equity for Columbia?

A: The cost of equity is an opportunity cost concept, which is determined in the financial markets based upon the relative risk assessments of investors. Simply stated, to attract sufficient capital to support their public service obligations, regulated utilities must offer investors a rate of return that is commensurate with returns available on alternative investments bearing similar risks. Thus, the use of proxy groups is useful in estimating a utility's cost of equity, since each

company comprising the proxy group represents an alternative investment opportunity of comparable risk vis-à-vis the subject utility. Regardless of whether the subject utility is publicly-traded or not, proxy group analyses ensure that fair rate of return principles, including comparable earnings, corresponding risks, and the opportunity cost of capital are all considered when estimating a utility's cost of equity.[16] Nonetheless, it should be noted that when the various cost of equity models are applied to the market and financial data of proxy group companies, various model inputs and/or assumptions are required, which contributes to the risk of observation error. For this reason, when possible, the use of larger core proxy groups and complementary proxy groups of comparable risk are recommended to mitigate these effects and to ensure a higher level of confidence in the reliability of the analytical results.

Q: What criteria did you apply in selecting the companies included in your gas utility proxy group?

A: In selecting a gas utility proxy group, my objective was to identify a group of publicly-traded natural gas distribution companies with risk characteristics

[16] These fair rate of return principles were articulated by the U.S. Supreme Court in various landmark case decisions, including *Willcox et. al., Constituting the Public Service Commission of New York v. Consolidated Gas Co.*, 212 U.S. 19 (1909); *Bluefield Water Works and Improvement Company v. Public Service Commission of the State of West Virginia*, 262 U.S. 679 (1923) (*Bluefield*); and *Federal Power Commission et al. v. Hope Natural Gas Company*, 320 U.S. 591 (1944) (*Hope*). Although the *Hope* and *Bluefield* cases are widely-referenced with regard to fair rate of return standards, the *Consolidated Gas* case was actually the first case where the Supreme Court addressed principles surrounding a fair rate of return for public utility companies.

similar to Columbia, which is not a publicly traded company. Accordingly, I applied the following selection criteria in making this determination: (i) Value Line Investment Survey Industry Classification as a Natural Gas Utility; (ii) Value Line Safety Rank of "1," "2" or "3"; (iii) S&P corporate credit rating no lower than BBB-, or Moody's long-term issuer rating of no lower than Baa3 ; (iv) operating income from the company's regulated gas distribution operations equals or exceeds 60 percent of the company's consolidated operating income; (v) company must currently pay dividends and must not have discontinued or reduced its dividend during the previous five years (2021-2025); (vi) company must have significant revenue stabilization mechanisms in place; and (vii) company is not, and has not recently been, an acquisition target. Applying the above selection criteria yielded a core proxy group that is comprised of the following seven publicly traded natural gas distribution holding companies:[17]

Atmos Energy Corp.

New Jersey Resources Corp.

NiSource Inc.

Northwest Natural Gas Co.

ONE Gas, Inc.

[17] Note that Value Line classifies each of the above holding companies as Natural Gas Utility holding companies.

Southwest Gas Holdings

Spire, Inc.

Throughout the remainder of my testimony, I will refer to this proxy group as the "Gas LDC Group."

Q: Why is it necessary to complete a comparative risk assessment between Columbia and the Gas LDC Group?

A: Considering that market-derived information for the Gas LDC Group companies will be used to estimate Columbia's cost of equity, it is critical that the Gas LDC Group is risk-comparable to the Company. If material differences in risk are identified, the analyst must apply his/her informed judgment in determining whether further adjustments are required to the cost of equity estimates indicated by application of the various analytical models. Because Columbia itself is not publicly traded, market-based financial information is not available for the Company. Therefore, in conducting my comparative risk assessment, I have instead analyzed various widely recognized business and financial risk metrics, none of which are dependent upon stock prices or other market-based information.

Q: Do a utility's credit ratings provide insight into its risk profile, cost of debt and cost of equity?

A: Yes. Credit ratings reflect the risk of default with respect to a company's debt obligations, and are therefore strongly correlated with a company's borrowing costs. For example, companies with a lower risk of default are assigned higher credit ratings and therefore benefit from lower borrowing costs. Conversely, companies with a high risk of default are assigned lower credit ratings and consequently incur higher borrowing costs. A firm with higher borrowing costs will also have a higher cost of equity, since investors invariably demand an equity risk premium above and beyond the firm's cost of debt as compensation for bearing the additional risks inherent in common stocks. Although the credit rating agencies do not currently issue ratings for Columbia itself, the Company's ultimate parent company, NiSource, is currently rated BBB+ by Standard and Poor's and Baa2 by Moody's.

Presently, S&P has assigned an average corporate credit rating of "A-" for the companies comprising the Gas LDC Group, while Moody's has assigned an average long-term issuer rating of "Baa1" for the Gas LDC Group companies. Both the S&P and Moody's ratings reflect the overall credit worthiness of the issuing company, rather than the risk of default for a specific debt issue. Additional information on the Gas LDC Group's average credit ratings can be found on page 7 of Attachment VVR-7.

Q: When evaluating Columbia versus the Gas LDC Group, how do their business and financial risk metrics compare?

A: The results of my comparative risk assessment for Columbia and the Gas LDC Group are presented on pages 1 and 2 of Attachment VVR-3, respectively. Pages 3 and 4 of Attachment VVR-3 provide additional information on the capitalization ratios for each of the seven companies comprising the Gas LDC Group. Within this attachment, I have evaluated the five-year historical period of 2021-2025, along with the five-year historical averages. My findings are summarized by individual risk metric as presented below:

1. Relative Size

Based on a total book capitalization of $626.5 million, Columbia is approximately 1/19th the size of the average company within the Gas LDC Group ($11.8 billion). It is well-documented in the finance literature that small capitalization companies have a higher risk profile as compared to large capitalization companies and therefore earn higher relative returns. This is known as the "size effect" and is often attributed to the greater relative impact that significant (negative) events can have on smaller firms, vis-à-vis larger firms. Morin summarizes the size effect in *Modern New Regulatory Finance,* a widely referenced authoritative guide on utility cost of capital matters, as follows:

> Investment risk increases as company size diminishes, all else remaining constant. Small companies have very different returns than large ones, and on average they have been higher.
> ….
> The size phenomenon is well-documented in the finance literature.
> ….
> The relationship between firm size and return cuts across the entire size spectrum but is most evident among smaller companies that have higher returns than larger firms on average.
> ….
> Size is a significant factor that increases both business risk and financial risk and, therefore, the cost of capital.[18]

Furthermore, in multiple academic papers, distinguished researchers Fama and French identified company size as a significant factor in explaining equity returns. As a result of their research, Fama and French developed an enhanced CAPM, known as the "Three Factor Model," which recognized that the "size premium" is an essential component in estimating the cost of equity for small capitalization firms.[19]

2. Volatility of Return on Book Equity

In the absence of observable market data, both the standard deviation and coefficient of variation of a time series of annual book ROEs can serve as suitable risk measurement substitutes for beta. Although standard deviation is a measure

[18] Roger A. Morin, *Modern Regulatory Finance* (PUR Books LLC, 2021), at 213, 214 and 218.

[19] See Eugene F. Fama and Kenneth R. French, "Industry Costs of Equity," *Journal of Financial Economics*, 43 (1997): 153-193; and Eugene F. Fama and Kenneth R. French, "The Capital Asset Pricing Model: Theory and Evidence," *The Journal of Economic Perspectives*, 18 (Summer 2004), at 25-46.

of total risk, while beta is a measure of non-diversifiable systematic risk, these two risk measures have been shown to be highly correlated. The coefficient of variation is calculated as the ratio of the standard deviation of ROE to the mean ROE, which facilitates a comparison of the degree of variation from one data series to another (i.e., Columbia vs. Gas LDC Group), even if the respective mean ROEs differ significantly. Higher calculated values for the standard deviation and coefficient of variation indicate greater volatility in achieved ROEs, which corresponds to a higher overall level of investment risk. For the period 2021-2025, the standard deviation of achieved ROEs was 1.76 percent for Columbia, and 0.47 percent for the Gas LDC Group. For the same period, the coefficient of variation was 0.225 for Columbia and 0.053 for the Gas LDC Group, reflecting a significantly higher relative volatility in achieved ROEs for Columbia.

3. Equity Capitalization Ratio

All else being equal, a company with a higher equity capitalization weighting has a lower level of financial risk, while a company with a lower equity capitalization weighting has a higher level of financial risk. This is because companies which rely more heavily on debt capital to finance their operations are subject to a higher level of contractual obligations in the form of periodic principal and interest payments. Increasing levels of fixed-payment obligations constrain a company's financial flexibility, especially during economic downturns, and

therefore increase a company's financial risk profile. For this reason, the debt-to-capitalization ratio, which is the complement of the equity capitalization ratio, serves as an important financial metric that is routinely used by the rating agencies to assess a company's credit quality and overall financial risk profile. The 5-year average equity capitalization ratio for Columbia is 53.5 percent based upon permanent capitalization, and 51.0 percent based upon total capitalization. The 5-year average equity capitalization ratio for the Gas LDC Group is 47.5 percent based upon permanent capitalization, and 42.6 percent based upon total capitalization. As outlined in Attachment VVR-5, the Company is proposing a 52.64 percent common equity ratio for rate-setting purposes in this proceeding, which consistent with Commission precedent, is based upon total capitalization and therefore includes short-term debt.

4. EBITDA-to-Interest Coverage

The EBITDA-to-Interest Coverage ratio is a key analytical metric routinely used by the rating agencies to evaluate whether a company's earnings and cash flow are sufficient enough to adequately cover its debt service obligations. Higher coverage ratios generally imply lower levels of financial risk and higher credit quality. The 5-year average EBITDA-to-Interest Coverage ratio for the years 2021-2025 is 5.11x for Columbia and 6.21x for the Gas LDC Group.

5. FFO-to-Adjusted Total Debt

The FFO-to-Adjusted Debt ratio is another important analytical metric used by the rating agencies and expresses a company's annual operating cash flows as a percentage of its total adjusted debt. The reciprocal of the FFO-to-Adjusted Debt ratio provides an approximate estimate of the total number of years of annual cash flows that would be required to retire a company's adjusted debt obligations. The 5-year average FFO-to-Adjusted Total Debt ratios for the years 2021-2025 is 18.5 percent for Columbia and 14.6 percent for the Gas LDC Group.

Q: What conclusions have you drawn from your comparative risk assessment between Columbia and the Gas LDC Group?

A: Columbia's investment risk metrics indicate that, on an overall basis, the Company has a somewhat higher risk profile compared to the Gas LDC Group. In particular, the business risk metrics I evaluated suggest that the Company has a higher risk profile compared to the Gas LDC Group, as demonstrated by the Company's: (1) significantly smaller size compared to the average company in the Gas LDC Group; and (2) markedly higher variability of book returns on equity, as measured by both the standard deviation and the coefficient of variation. In addition, as noted earlier, Columbia's higher allocation of gas throughput to industrial and transportation customers, as well as its high customer concentration level among the Company's top five transportation customers, also has the effect of increasing

Columbia's business risk profile. At the same time, however, the financial risk metrics[20] I evaluated suggest that on an overall basis, Columbia has a slightly lower financial risk profile as compared to the Gas LDC Group.

Therefore, on an overall basis, the results of my comparative risk assessment suggests that Columbia's overall investment risk profile is marginally higher than that of the Gas LDC Group. However, it is my opinion that this risk differential is not significant enough to justify a further upward adjustment to the Gas LDC Group's indicated cost of equity. For this reason, I have relied entirely upon the cost of equity estimates yielded by applying the respective analytical models to the market and financial data of Gas LDC Group companies I analyzed, without any further need to make an additional risk adjustment to these estimates.

Q: Have you considered any other complementary proxy groups to corroborate the results yielded from your evaluation of the Gas LDC Group?

A: Yes, I have. As previously stated, the use of complementary proxy groups of comparable risk to the Gas LDC Group ensures a higher level of confidence in the reliability of the analytical results when estimating a utility's cost of equity. The importance of evaluating complementary proxy groups has become particularly

[20] These financial risk metrics include the Equity Capitalization ratio, EBITDA-to-Interest Coverage ratio, and the FFO-to-Adjusted Total Debt ratio, as presented in Attachment VVR-3.

evident in recent years, as recent merger and acquisition activity in the regulated utility sector has reduced the number of gas utility holding companies to select from in developing a gas utility proxy group. Therefore, to ensure a robust sample size that will obviate potential distortions caused by observation errors in the various financial model inputs, I have also evaluated a proxy group of eight combination gas and electric utility companies, and a proxy group of nine non-rate-regulated companies (i.e., the Combination Utility Group and the Non-Regulated Group, respectively). Both of these proxy groups have risk profiles which are comparable to the Gas LDC Group.

Considering that Columbia is not publicly traded, the analysis of comparative risk metrics discussed earlier was necessary to establish the relative risk relationship between the Company and the Gas LDC Group. In order to facilitate a comparison of the risk profiles of the Combination Utility Group and the Non-Regulated Group to Columbia, this was accomplished indirectly through a comparative risk assessment of the three proxy groups, as based upon published risk indicators. I will discuss the relative risk relationships between the three proxy groups and Columbia later in my testimony.

Q: Why is it appropriate to evaluate a complementary proxy group of combination gas and electric utility companies?

A: Considering the relatively small size of the Gas LDC Group, evaluating a proxy group of combination gas and electric utility companies serves as a useful adjunctive analysis that provides additional perspective on the return expectations of equity investors. This approach is also consistent with the comparable earnings standard established in *Hope* and *Bluefield*, since gas utilities are entitled to earn a rate of return commensurate with returns offered by other companies having "corresponding risks," including combination gas and electric utility companies. Morin provides additional support for this approach in *Modern Regulatory Finance,* where he argues that a proxy group of combination electric and gas utilities is a suitable complement to a proxy group of gas utilities, where he states:

> This procedure is reasonable given that the natural gas distribution business possesses an investment risk profile that is similar in risk to that of investment-grade combination electric and gas utilities. The latter possess economic characteristics similar to those of natural gas distribution utilities as they are both involved in the distribution of energy services products at regulated rates in a cyclical and weather-sensitive market. They both employ a capital-intensive network with similar physical characteristics. They are both subject to rate of return regulation.[21]

Accordingly, the Combination Utility Group that I have referenced represents a reasonable and useful complement to the Gas LDC Group.

Q: Can you provide any additional evidence that your proxy group of combination gas and electric utility companies possesses a risk profile which is comparable

[21] Roger A. Morin, *Modern Regulatory Finance* (PUR Books LLC, 2021), at 445.

to a proxy group of gas-only utilities, and therefore represents a suitable complement to your Gas LDC Group in estimating Columbia's cost of equity?

A: Yes. Substantial evidence suggests that to the extent combination gas and electric utilities may be perceived as riskier than pure-play gas utilities, the risk differential is likely overstated. This is demonstrated by the difference in the national averages of authorized ROEs granted to gas versus electric utilities over the past 45 years (1981 to 2025), which have been approximately 11 basis points[22] higher for electric utilities. However, more recently, gas utilities have, on average, been granted higher authorized ROEs than electric utilities. For example, during the past 5-year period (2021 to 2025), the national average of authorized ROEs for gas utilities was approximately four basis points[23] higher than the average of authorized ROEs for electric utilities (including both vertically integrated and distribution-only electric utilities). If state regulatory commissions nationwide believed that the risk differential between gas and electric utilities was more significant, this would have been demonstrated by a greater disparity in historically authorized ROEs between gas and electric utilities. In the instant proceeding, the results of my comparative risk assessment determined that the

[22] *The Cost of Capital – A Practitioner's Guide*, D. Parcell, Society of Utility and Regulatory Financial Analysts, (2020), quoting Regulatory Research Associates, at 93; and *RRA Regulatory Focus, Major Energy Rate Case Decisions in the U.S.-January-December 2025,* Regulatory Research Associates, S&P Global Market Intelligence, April 2026.

[23] *RRA Regulatory Focus, Major Energy Rate Case Decisions in the U.S.-January-December 2025,* Regulatory Research Associates, S&P Global Market Intelligence, April 2026.

Combination Utility Group has a slightly lower investment risk profile as compared to the Gas LDC Group.

Q: What criteria did you use to select the companies included in your Combination Utility Group?

A: In developing the Combination Utility Group, my objective was to identify a group of publicly traded combination gas and electric utility companies with risk characteristics similar to the Gas LDC Group, and by extension, Columbia. Accordingly, I applied the following screening criteria in selecting companies for inclusion in the Combination Utility Group: (i) Value Line Investment Survey Industry Classification as an Electric Utility; (ii) Value Line Safety Rank of "1", "2" or "3"; (iii) S&P corporate credit rating no lower than BBB-, or Moody's long-term issuer rating of no lower than Baa3; (iv) company must have been engaged in both the natural gas distribution and electric distribution businesses for at least the past five years; (v) company must *not* currently operate nuclear power generation facilities or be a significant independent power producer; (vi) company must currently pay dividends and must not have discontinued or reduced their dividend payments during the previous five years (2021-2025); and (vii) company must not have recently been an acquisition target. Applying the above selection criteria yielded a proxy group consisting of the following eight publicly traded

combination gas and electric utility companies:[24]

Alliant Energy Corp.

Avista Corp.

CMS Energy Corp.

Consolidated Edison, Inc.

Eversource Energy

MGE Energy Inc.

Sempra Energy

WEC Energy Group

I will refer to this group throughout my testimony as the Combination Utility Group.

Q: Why is it also appropriate to evaluate a complementary proxy group of non-rate-regulated U.S. companies when estimating Columbia's cost of equity?

A: Under the fair rate of return standards established in *Hope* and *Bluefield*, the U.S. Supreme Court determined that regulated utilities are entitled to earn a rate of return commensurate with other companies having comparable risks, irrespective of their business activities or the extent to which they are regulated. For example,

[24] Note that Value Line classifies each of the following holding companies as Electric Utility holding companies.

in *Bluefield,* the Supreme Court concluded:

> A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties[25].

It is important to note that within its *Bluefield* opinion, the Supreme Court specifically stated that public utilities should be permitted to earn a return that is equal to the returns on "*investments in other business undertakings,"* provided they have corresponding risks. By virtue of its reference to *"other business undertakings,"* the Supreme Court implicitly endorsed the use of non-utility proxy groups in the determination of a fair rate of return for utilities. Furthermore, in the *Hope* decision, the Supreme Court concluded:

> By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks.[26]

It is clear then, based upon the decisions of the Supreme Court in these landmark cases, that the use of non-rate-regulated proxy companies in estimating a utility's cost of equity is a sound practice, and is consistent with the comparable earnings standard established in these cases. After all, utilities do not only compete with

[25] *Bluefield Water Works and Improvement Company v. Public Service Commission of the State of West Virginia*, 262 U.S. 679, 692 (1923).

[26] *Federal Power Commission et.al. v. Hope Natural Gas Company*, 320 U.S. 591, 603 (1944).

other utility companies for investor capital. They must also compete with an entire universe of risk-comparable companies, irrespective of industry classification and level of regulatory oversight. Therefore, in order to attract sufficient capital to support its public service obligations, and consistent with the concept of opportunity cost, Columbia must provide a return to its investors that is similar to the returns offered by non-rate-regulated companies of comparable risk. Otherwise, over the long run, investor capital will simply flow to its most productive use elsewhere.

It is also important to note that cost-of-service ratemaking is intended to be a substitute for competition. That is, the objective of rate regulation is to produce the same results that would be achieved under the forces of market competition. In particular, it is the phenomenon of "competitive equilibrium" that rate regulation is intended to replicate, where, in the long run, market forces limit companies to earning returns that are no greater than, but also no less than, investors' minimum required rate of return. Expressed in microeconomic terms, long-run equilibrium is achieved where firms only earn minimally required levels of "normal profits," while excessive profits, often referred to as "economic profits," are by definition equal to zero. Accordingly, the returns of regulated utilities should be no lower than the returns of comparable risk companies which operate under the constraints of market competition. The nine companies

included in the Non-Regulated Group are stable, lower-risk companies which operate in the consumer staple, consumer retail, energy, home improvement, and waste management sectors of the economy. Considering that this proxy group is demonstrably comparable on a total risk basis to the Gas LDC Group, its use is consistent with the fair rate of return standards established in *Hope* and *Bluefield.*

Q: What criteria did you use to select the companies included in the Non-Regulated Group?

A: In selecting the Non-Regulated Group, my objective was to identify a group of publicly traded domestic companies with a risk profile either equivalent to, or preferably lower than, the Gas LDC Group. This approach is designed to ensure a conservative analysis when applying the various cost of equity models to the market and financial data of the Non-Regulated Group companies. To achieve this objective, I applied the following screening criteria in selecting companies for inclusion in the Non-Regulated Group: (i) Value Line Investment Survey Classification as a Conservative Stock, which is defined as stocks having a Value Line Safety Rank of no lower than "1" (Highest Rank for Relative Safety); (ii) Value Line beta ranging between 0.65 and 0.95; (iii) Value Line Financial Strength Rating of "A" or higher; (iv) S&P corporate credit rating that is no lower than BBB-, or Moody's long-term issuer rating of no lower than Baa3; (v) company shall not be in the gas and/or electric distribution business, and shall not be an investment,

financial services, pharmaceutical, life sciences, medical technology, hardware/software, or defense contracting company; (vi) the company must currently pay dividends and must not have discontinued or reduced their dividend payments during the previous five years (2021-2025); and (vii) the company must have at least one consensus earnings estimate published by an information service provider such as Thomson Reuters or Zacks. Applying these highly selective criteria yielded the Non-Regulated Group, which is comprised of the following nine companies:

Altria Group, Inc.

Chevron Corp.

Costco Wholesale Corp.

Home Depot Inc.

McDonald's Corp.

Procter & Gamble Co.

Republic Services, Inc.

Walmart Inc.

Waste Management, Inc.

Q: How does the Combination Utility Group compare on a total risk basis to the Gas LDC Group?

A: To facilitate a comparative risk assessment between the respective proxy groups,

I have compared the three groups on the basis of six well-recognized measures of investment risk. The first of these measures is the Value Line "beta," which measures a stock's non-diversifiable or systematic risk. The second measure is the Value Line "Safety Rank," which is Value Line's proprietary measure of the total risk of a stock and is determined based upon an equal weighting between Value Line's Financial Strength rating and Stock Price Stability rating. I have also considered the Value Line Financial Strength and Stock Price Stability ratings on an individual basis, which are presented as risk measures three and four. The fifth and sixth measures of investment risk I have evaluated are the long-term credit ratings assigned by S&P and Moody's, respectively. Considering that credit ratings are the product of a comprehensive, multi-dimensional analysis which considers a utility's business risk (including regulatory risk) and financial risk, they provide a useful perspective into the overall investment risk profile of the respective proxy groups.

The summarized results of my comparative risk assessment are presented in Table VVR-5 below. Based upon my evaluation of the aforementioned risk measures, I have concluded that taken on an overall basis, the Combination Utility Group has a slightly lower investment risk profile as compared to the Gas LDC Group. This conclusion is based upon the fact that the Combination Utility Group has a lower average beta coefficient (0.77) as compared to the Gas LDC Group

(0.79) and a superior (higher) Value Line Stock Price Stability rating (94) as compared to the Gas LDC Group (92). At the same time, the Combination Utility Group's remaining four risk indicators are equivalent to those of the Gas LDC Group. Based upon these findings, I have concluded that the Combination Utility Group has a slightly lower investment risk profile as compared to the Gas LDC Group and therefore provides a useful basis for corroborating the cost of equity results yielded for the Gas LDC Group.

Q: How does the Non-Regulated Group compare on a total risk basis to the Gas LDC Group?

A: Based upon my evaluation of the aforementioned risk measures, and as summarized in Table VVR-5 below, I have concluded that the Non-Regulated Group has a marginally lower investment risk profile as compared to the Gas LDC Group. My conclusion is based on the fact that, as reflected in Table VVR-5 below, all six of the risk measures I evaluated indicate a somewhat lower level of investment risk for the Non-Regulated Group as compared to the Gas LDC Group. Therefore, the Non-Regulated Group provides both a reasonable and conservative basis for corroborating the cost of equity results derived for the Gas LDC Group in the current market environment.

Table VVR-5 Comparative Risk Assessment of Proxy Groups			
Risk Measure	**Gas LDC Group**	**Comb. Utility Group**	**Non-Reg. Group**
Value Line Beta	0.79	0.77	0.76
Value Line Safety Rank	2	2	1
Value Line Fin. Strength Rating	A	A	A+
Value Line Stock Price Stability Rating	92	94	94
S&P Avg. Long-Term Debt Rating	A-	A-	A
Moody's Avg. Long-Term Debt Rating	Baa1	Baa1	A1

D. Analysis of Regulatory Mechanisms

Q: In view of the fact that Columbia utilizes a Weather Normalization Adjustment ("WNA") mechanism, would it be appropriate to apply a downward adjustment to Columbia's cost of equity under the premise that the Company's WNA mechanism has risk-reducing effects on the Company's overall investment risk profile?

A: No, because an adjustment of this type would be clearly redundant and therefore inappropriate. Considering that a majority of the utility proxy group companies I reference in my quantitative evaluations already utilize similar revenue

stabilization mechanisms, any theoretical risk reduction and/or theoretical reduction in the cost of equity resulting from these mechanisms would already be reflected within the market prices of the proxy group companies. In other words, since investors are already aware of the stabilization mechanisms employed by the proxy group companies, they have already incorporated these mechanisms into their risk perceptions and rate of return expectations. Therefore, a downward adjustment to Columbia's cost of equity is not necessary or appropriate, since on an overall basis, the extent to which the proxy group companies already employ revenue stabilization mechanisms is generally equal to, or more comprehensive than, Columbia's WNA mechanism. Accordingly, any theoretical reduction in ROE would already be reflected in the indicated cost of equity for each of the proxy group companies.

Q: Have you completed a comparative evaluation to determine the extent to which the companies comprising your proxy groups also employ revenue stabilization mechanisms?

A: Yes, I have. My evaluation of the revenue stabilization mechanisms employed by each of the companies comprising the Gas LDC Group and the Combination Utility Group is presented within Attachment VVR-4. Using information available from Securities and Exchange Commission filings and company-prepared investor presentations, my evaluation identified, for each state jurisdiction in which the

proxy group companies have utility operations, the specific types of revenue stabilization mechanisms employed in each of those jurisdictions. During the course of my evaluation, I determined that a wide range of revenue stabilization mechanisms are employed by the majority of companies comprising the two utility proxy groups, including full decoupling, revenue normalization, weather normalization, rate stabilization, straight fixed-variable rate design, modified fixed-variable rate design, and lost revenue/lost margin recovery mechanisms.

Q: Based upon your evaluation of the revenue stabilization mechanisms employed by the proxy group companies, what conclusions have you drawn?

A: Again, I have determined that the majority of companies comprising the two utility proxy groups utilize rate designs that are either fully or partially non-volumetric in nature. More specifically, and as reflected in Attachment VVR-4, my evaluation determined that all seven of the companies comprising the Gas LDC Group, and that six of the eight companies comprising the Combination Utility Group, employ various forms of revenue stabilization mechanisms. Attachment VVR-4 demonstrates that, on balance, the revenue stabilization mechanisms employed by the proxy group companies share many of the same characteristics, and are therefore generally comparable, to Columbia's WNA program. As a result, my cost of equity evaluation, which relies upon the market and financial data of the proxy group companies, already incorporates the effects of these revenue

stabilization programs on the risk perceptions and rate of return expectations of investors. Accordingly, an adjustment to Columbia's cost of equity to compensate for any such theoretical reduction of risk is not warranted, since to the extent such risk reduction was to actually occur, its effect on Columbia's cost of equity will have already been captured within the market data of the proxy group companies.

Q: Based upon your evaluation of the infrastructure cost recovery mechanisms employed by the utility proxy group companies, what conclusions have you drawn?

A: As noted earlier, in determining the extent to which the proxy group companies utilize infrastructure cost recovery mechanisms, I employed the same approach that investors typically employ in conducting their relative risk assessments among various investment alternatives. That is, I reviewed each company's SEC public filings (i.e. 10-Ks and 10-Qs) and investor conference presentations. This is an important observation since investors will generally form their risk perceptions with respect to the impacts of infrastructure cost recovery mechanisms largely on the basis of the information contained within a company's public filings and/or other publicly disseminated information.

As presented in Attachment VVR-4, I have determined that the overriding majority of the utility proxy group companies (14 out of 15) employ infrastructure cost recovery mechanisms or forward test years that provide similar cost recovery

attributes as compared to Columbia's SMRP program. More specifically, within the Gas LDC Group, all seven of the proxy group companies employ infrastructure mechanisms or forward test years, while within the Combination Utility Group, seven of the eight companies utilize these mechanisms or forward test years. Therefore, in the aggregate, the market-based data of the utility proxy group companies would already capture a significant portion of any theoretical risk reduction resulting from the reduced regulatory lag associated with such cost recovery mechanisms. For the above stated reasons, it would be inappropriate to apply a downward adjustment to Columbia's proposed ROE due to the presence of the Company's SMRP program, since such an adjustment would be redundant to the effects that would already be incorporated within the market data of the proxy group companies.

Q: What is the current authorized rate of return for Columbia's SMRP rider?

A: In Columbia's recent SMRP rider filing (Case No. 2024-00328), the Commission approved an authorized ROE of 9.65% for the SMRP rider. This is compared to the 9.75% authorized ROE granted by the Commission for the Company's base rates in Columbia's most recent base rate filing (Case No. 2024-00092).

E. Rate-Setting Capital Structure

Q: What capital structure are you recommending for rate-setting purposes in this proceeding?

A: Attachment VVR-5 presents Columbia's capitalization as of February 28, 2026, which corresponds to the actual data in the base period for the Company. The August 31, 2026 capital structure is estimated at the end of the base period and consists of six-months of actual data and six-months of projected data. Considering that the rate-setting process is prospective in nature, the Company's authorized rate of return should incorporate known and foreseeable changes expected to occur during the fully forecasted test period, including those changes impacting the Company's capital structure.

As further outlined in Attachment VVR-6, after the base period, and through the end of the fully forecasted test period, Columbia plans to issue a total of $55.0 million in new long-term debt to NiSource. Therefore, Columbia's fully forecasted test period capital structure is estimated as of December 31, 2027, and incorporates the Company's planned financing activities as outlined above.

As further reflected in Attachment VVR-5, the Company is recommending that Columbia's thirteen-month average capital structure through the fully forecasted test period, ending December 31, 2027, be referenced for rate-setting purposes in the instant proceeding. As reflected in both Attachment VVR-2 and

Attachment VVR-5, Columbia's capital structure ratios of 46.13 percent long-term debt, 1.23 percent short-term debt, and 52.64 percent common equity, are recommended. Each of these ratios are based upon the thirteen-month average balance for the 2027 fully forecasted test year.

To confirm the reasonableness of the Company's fully forecasted test year-end capital structure, I have compared it to the capital structure ratios of the utility operating subsidiaries of the Gas LDC Group companies. As reflected in Table VVR-6 below, the respective equity capitalization ratios for the Gas LDC Group operating subsidiaries range from 43.2 percent to 61.1 percent, and reflect median and average equity capitalization ratios of 53.3 percent and 53.9 percent, respectively.

Table VVR-6 Common Equity Capital Ratios of the Utility Operating Subsidiaries of the Gas LDC Group[27]		
Utility Operating Company	**Parent**	**Common Equity Ratio**
Atmos Energy - Colorado	ATO	58.0%
Atmos Energy - Kansas	ATO	n/a
Atmos Energy - Kentucky	ATO	53.5%
Atmos Energy - Tennessee	ATO	61.1%
Atmos Energy – West Texas	ATO	61.0%
Atmos Energy – Mid-Tex	ATO	61.0%
New Jersey Natural Gas	NJR	54.0%
Columbia Gas of Maryland	NI	52.2%
Columbia Gas of Ohio	NI	50.6%
Columbia Gas of Pennsylvania	NI	54.4%
Columbia Gas of Virginia	NI	43.2%
Northern Indiana Public Service (gas)	NI	52.4%
Northwest Natural Gas - Oregon	NWN	50.0%
Northwest Natural Gas – Wash.	NWN	n/a
Kansas Gas Service Co.	OGS	n/a
Oklahoma Natural Gas Co.	OGS	n/a
Texas Gas Service Co.	OGS	59.9%
Southwest Gas - Arizona	SWX	48.5%
Southwest Gas - California	SWX	53.0%
Southwest Gas - Nevada	SWX	50.0%
Spire - Alabama	SR	n/a
Missouri Gas Energy (Spire)	SR	n/a
Utility Operating Co. - Minimum	-	43.2%
Utility Operating Co. - Maximum	-	61.1%
Utility Operating Co. - Median	-	53.3%
Utility Operating Co. - Average	-	53.9%
CKY's Proposed Rate-Setting Capital Structure	-	52.64%

[27] Source: S&P Global Market Intelligence. Reflects the most recent rate case order where an equity capitalization ratio was disclosed in the final order. The designation "n/a" or "not available" reflects instances where an explicit equity capitalization ratio was not provided in the final rate order, such as in black box settlements.

As can be seen in Table VVR-6 above, the Company's equity capitalization ratio of 52.64 percent is well-within the range of what is typical and customary for other gas utility operating companies, and particularly the utility operating subsidiaries constituting the Gas LDC Group.

F. Embedded Cost of Debt

Q: What debt cost rate did you apply to the long-term debt and short-term debt components of Columbia's capital structure?

A: Attachment VVR-6 presents Columbia's embedded cost of long-term debt at February 28, 2026, and estimated cost of long-term debt at August 31, 2026 and December 31, 2027. Attachment VVR-6 also presents Columbia's estimated average cost of long-term debt for the thirteen-month period ending December 31, 2027, which reflects an average debt cost rate of 5.04 percent. With respect to the Company's future planned issuances of long-term debt, I have referenced an estimated debt cost rate of 6.50 percent for the issuances expected to occur during the remainder of 2026 and during 2027. The Company anticipates that these future debt issuances will be made on an intercompany basis to NiSource.

Regarding the short-term debt component of Columbia's capital structure, I have used a cost rate of 5.00 percent, which represents the Company's estimate for the fully forecasted test period. The Company obtains its short-term debt financing through the NiSource money pool, which is supported by NiSource's

commercial paper program and a revolving credit facility that NiSource has in place with a syndicate of banks. The interest cost rate estimate was determined based on the 1-month Secured Overnight Financing Rate ("SOFR" rate), plus an applicable margin as reflected within the pricing grid in NiSource's revolving credit facility agreement, and also plus a risk premium for potential differences in Federal Reserve policy during the forecast period. Accordingly, for rate-setting purposes, I will adopt 5.04 percent as Columbia's cost of long-term debt, and 5.00 percent as Columbia's cost of short-term debt.

IV. COST OF EQUITY ESTIMATES

A. Cost of Equity - General Approach

Q: Please describe the general approach you have taken in estimating the cost of equity for Columbia.

A: In order to facilitate a thorough analysis of Columbia's cost of equity, I first conducted a comparative risk assessment to establish the risk relationship between Columbia and the Gas LDC Group, the latter of which constitutes my core proxy group in this proceeding. As described further in my comparative risk assessment, I then evaluated the risk relationship between the Gas LDC Group and the two complementary proxy groups that I analyzed. Next, I determined the indicated cost of equity for each of the respective proxy groups by applying three widely recognized cost of equity models to the market and/or financial data of the proxy

group companies. To estimate Columbia's cost of equity, I first reviewed the cost of equity estimates yielded for the Gas LDC Group, and then determined if any further return adjustments were necessary based upon the results of my comparative risk assessment. As noted earlier, based upon this evaluation I have concluded that the cost of equity estimates yielded for the Gas LDC Group provide a fair representation of Columbia's cost of equity in the current market environment, without the need for any further risk adjustments. At the same time, I have also concluded that the cost of equity estimates derived for the complementary proxy groups corroborated the results for the Gas LDC Group, thereby providing a check of reasonableness.

It should be noted that although the cost of equity cannot be directly observed, it can be estimated using a variety of analytical models, each of which attempt to explain and/or predict investor behavior. However, since investor expectations often differ and investors rely on a variety of information sources and financial models to make their investment decisions, no single analytical model can possibly capture the broader universe of investor expectations. Moreover, each financial model has its own practical shortcomings, either in the form of rigid underlying assumptions or required model inputs which are dependent upon the subjective judgment of the analyst. For these reasons, in *Risk and Return for Regulated Industries*, Villadsen, Vilbert, Harris and Kolbe present a compelling

argument for the use of a variety of analytical methods in estimating a utility's cost of equity, and caution against overreliance on any one particular model, where the authors state:

> It is important to recognize explicitly at the outset that models are imperfect. All models are simplifications of reality, and this is perhaps especially true of financial models. Because they cannot and do not capture all the dynamics and complexities of financial markets, asset pricing models can never perfectly determine or explain the actual prices we observe….There is no single, widely accepted, best pricing model – just as there is no consensus on some fundamental issues, such as the efficient market hypothesis (EMH). Analysts have a dizzying array of potential models at their disposal, and it must be acknowledged that cost of capital estimation continues to include art, not just science. The generally recommended "best practice" is therefore to look at a totality of information from alternative methodologies.[28]

Parcell makes similar observations in *The Cost of Capital - A Practitioner's Guide*, where he maintains the following:

> Investor expectations differ and it is apparent that all investors do not rely upon the same information and models in making investment decisions. Consequently, no single model and model variant can be demonstrated to capture all investor expectations. Furthermore, no single model is so inherently precise that it can be relied on solely to the exclusion of other theoretically sound models….Each model has its own way of examining investor behavior, its own premises, and its own set of simplifications of reality.…Investors clearly do not subscribe to any singular method, nor does the stock price reflect the application of any one single method by investors. Therefore, it is essential that estimates of investors' required rate of return produced by one method be compared with those produced by other methods, and that all cost of equity estimates be required to pass fundamental tests of

[28] Bente Villadsen, Michael J. Vilbert, Dan Harris and A. Lawrence Kolbe, *Risk and Return for Regulated Industries,* Academic Press, Elsevier Inc. (2017), at 38.

reasonableness and economic logic.[29]

Q: Has the Commission historically supported the use of multiple analytical models in estimating a utility's cost of equity?

A: Yes. In its Order in Columbia's last rate proceeding (Case No. 2024-00092), the Commission stated the following:

> As discussed in Case Nos. 2019-00271, 2020-00174 and 2020-00350, the Commission continues to believe that it is appropriate for utilities to present, and for the Commission to evaluate, multiple methodologies to estimate ROEs. Each approach has its own merits. As demonstrated in the respective ROE testimonies in this proceeding, there is considerable variation in both data and application within each modeling approach, which can lead to very different results. The Commission's role is to conduct a balanced analysis and weigh how each of the various models, as presented, are employed.[30]

Therefore, consistent with the foregoing arguments and the Commission's stated preference, to ensure a thorough evaluation of Columbia's cost of equity, I have applied a variety of analytical models to the market and/or financial data of the proxy group companies.

[29] David C. Parcell, *The Cost of Capital - A Practitioner's Guide* (Society of Utility and Regulatory Financial Analysts, 2020 Edition, Copyrighted 2022), at 86.

[30] Case No. 2024-00092, *Electronic Application of Columbia Gas of Kentucky, Inc. for an Adjustment of Rates; Approval of Depreciation Study; Approval of Tariff Revisions; and Other Relief* (Ky. PSC, Dec. 30, 2024), Order at 42.

B. Discounted Cash Flow ("DCF") Analysis

Q: Please provide an overview of the DCF approach used to estimate the cost of equity.

A: The DCF approach is a commonly used valuation model, which is based on the fundamental premise that investors value financial assets on the basis of their expected future cash flows, discounted by an appropriate risk-adjusted rate of return. The model maintains that the market-determined price of a share of common stock or other financial asset will continually adjust until investors are sufficiently compensated for the level of investment risk they bear. It is only at the point that investors have realized their required rate of return that valuation equilibrium will have been achieved. The objective of the DCF approach is to reproduce this iterative market valuation process in the form of a financial model. Considering that the price of a given share of common stock can be directly observed in the equity market, and that the stock's future dividends and capital gains can be estimated, the DCF model can be successfully rearranged to solve for the cost of common equity. It is this "rearranged" version of the DCF model that is commonly used in utility rate proceedings, as I will discuss later in my testimony.

Q: What is the underlying theoretical basis for employing the DCF approach to value financial assets, and how has the DCF approach evolved over the years?

A: The theoretical underpinnings of the DCF approach are consistent with classical valuation theory, which states that the intrinsic value of any security is a function of its future earnings power. Specifically, intrinsic value can be quantified as the present value of the security's future cash flows discounted at the appropriate risk-adjusted rate of return. This concept was first formally advanced by Fisher in *The Rate of Interest*[31], and was further elaborated upon in his subsequent work, *The Theory of Interest*, wherein Fisher maintained:

> Capital, in the sense of capital value, is simply future income discounted or, in other words, capitalized. The value of any property, or rights to wealth, is its value as a source of income and is found by discounting that expected income[32].

Fisher's seminal valuation concept, which was first articulated over a century ago, laid the foundation for modern versions of the DCF approach, which both investors and academics continue to rely upon today.

Almost a decade after *The Theory of Interest* was published, John Burr Williams expanded upon Fisher's earlier work in valuation theory in his classic publication, *The Theory of Investment Value* (1938). It was here that Williams first expressed in modern economic terms a fully developed DCF equation, which was intended to serve as a valuation model for common stocks. Although Williams emphasized that his DCF equation was a *dividend* discounting model rather than

[31] Irving Fisher, *The Rate of Interest*, (The Macmillan Company 1907).
[32] Irving Fisher, *The Theory of Interest*, (The Macmillan Company 1930), Part I, Chapter I, Section 7.

an earnings-based model, he also acknowledged that over the long run, the two approaches would produce equivalent valuation results. Indeed, upon introducing his DCF equation in *The Theory of Investment Value*, Williams explains:

> Let us define the investment value of a stock as the present worth of all the dividends to be paid upon it….
>
> …
>
> Most people will object at once to the foregoing formula for stocks by saying that it should be the present worth of future *earnings*, not future *dividends*. But should not earnings and dividends both give the same answer under the implicit assumptions of our critics? If earnings not paid out in dividends are all successfully reinvested at compound interest for the benefit of the stockholder, as the critics imply, then these earnings should produce dividends later; if not, then they are money lost….
>
> …
>
> On analysis, therefore, it will be seen that no contradiction really exists between our formula using dividends and the common precept regarding earnings. How to estimate the future dividends for use in our formula is, of course, the difficulty[33].

The DCF approach introduced by Williams included a general "long-form" equation, which reflected an ongoing series of dividend payments extending into the indefinite future, and a simplified constant growth version of the equation, which was later refined by Gordon and Shapiro[34].

In subsequent years, Williams' long-form DCF equation was adjusted to

[33] John Burr Williams, *The Theory of Investment Value*, (Cambridge, MA, Harvard University Press, 1938) 55, 57-58.

[34] Myron J. Gordon and Eli Shapiro, "Capital Equipment Analysis: The Required Rate of Profit," *Management Science*, 3 (October 1956) 102-110.

accommodate various forms of future cash flows, rather than only dividends, and evolved into a general purpose valuation model. This so-called "general DCF model" continues to be used today in a variety of applications extending beyond security valuation, including corporate finance decision support, real estate development, and other financial applications. However, when the general DCF model is employed to value common stocks, the following equation is utilized:

$$P_0 = D_1/(1+K) + D_2/(1+K)^2 + D_3/(1+K)^3 + ...+ D_n/(1+K)^n \quad \text{(Equation 1.1)}$$

Where: P_0 = current market price of the stock,

D_1 = expected dividend at end of year 1, year 2, year 3, etc.,

n = infinity,

K = investors' expected return on common equity (the discount rate).

Q: What form of the DCF model is used to estimate the cost of common equity in utility regulatory proceedings?

A: In practice, the general DCF model can be challenging to apply to common stock valuation, since the model requires that discrete dividend payments be estimated well into the distant future. However, if investors assume that future dividend payments will increase at a constant growth rate each year into perpetuity, the valuation process can be greatly simplified. Drawing upon the constant growth model developed by Williams, and later refined by Gordon and Shapiro, the

following constant growth equation can be utilized in valuing common stocks:

$$P_0 = D_1/(K-g) \qquad \text{(Equation 1.2)}$$

Where: P_0 = current market price of the stock,

D_1 = expected dividends over the next year,

K = investors' expected return on common equity (the discount rate),

g = expected dividend growth rate into perpetuity.

This simplified equation states that a company's stock price is determined by the present value of dividend payments occurring over the next year, plus all subsequent dividend payments growing at a constant annual rate, as discounted by the expected return on common equity. Although the constant growth model is conceptually viable and simplifies the process of estimating future dividend payments, the model is also premised upon strict underlying assumptions,[35] which are not always observed in reality.

The constant growth equation reflected above can be rearranged to solve

[35] The strict assumptions underlying the constant growth DCF model include: (i) dividends and earnings grow at the same constant growth rate (or constant average growth trend); (ii) book value per share and the stock price also grow at the same constant growth rate; (iii) investors expect the same rate of return ("K") in all future periods, implying no changes in risk and a flat yield curve; (iv) the discount rate, "K," must exceed the expected constant growth rate, "g"; (v) a fixed dividend payout ratio will be maintained; (vi) a fixed price-earnings ("P/E") multiple will be maintained; (vii) dividends are only paid at the end of each year; and (viii) no external financing occurs, as growth is financed strictly through the retention of earnings (or alternatively, any new sales of stock only occur at book value). Despite the fact that these assumptions are not always reflective of reality, the constant growth model maintains its usefulness due in its ability to adequately explain investor behavior and the stock market valuation process.

for "K," which yields the standard DCF formulation for estimating the cost of common equity, which is expressed as follows:

$$K = D_1/P_0 + g \qquad \text{(Equation 1.3)}$$

Where: Variables are as previously defined.

It is this standard form of the DCF model that is commonly used in utility rate proceedings. The model is intuitive in that it states that common stock investors have a total return requirement ("K") which is comprised of a forward looking dividend yield component (D_1/P_0), plus the expected growth rate of dividends (and/or stock price appreciation) into perpetuity ("g"). Considering that both components of the dividend yield (D_1 and P_0) can be readily observed through a variety of publicly available sources, and that the investor expected growth rate can be estimated using a variety of approaches, the analyst can infer "K," the required return on common equity.

Q: What steps are involved in implementing the constant-growth DCF model for estimating the cost of common equity?

A: Implementing the DCF model involves three essential steps. The first step is to determine the expected dividend yield component (D_1/P_0), which is defined as dividends expected to be paid over the next twelve months (D_1) divided by the current stock price (P_0). From an investor's perspective, the dividend yield represents *current income*. The second step is to estimate the long-term growth

expectations of investors, or "g," relative to the security's future dividends and/or price appreciation. From the investor's perspective, whether realized in the form of higher future dividend payments, or in the form of stock price appreciation, the growth component represents *future income.* Considering that a strict interpretation of constant-growth theory requires that a *perpetual* growth rate be estimated, while the available sources of forward-looking growth estimates are limited in their forecast horizons, determining an appropriate growth estimate is the most challenging and controversial aspect of the DCF approach. The third and final step is simply to sum together the expected dividend yield component with the expected long-term growth component, to determine "K," the investor required cost of common equity.

A detailed discussion of the steps I took in implementing the DCF constant growth model can be found in Appendix A to my testimony. Additionally, Appendix B discusses the treatment of "outlier" DCF results which do not meet threshold tests of reasonableness and economic logic. Appendix C the importance of applying a flotation cost adjustment to the "baseline" cost of equity results under the DCF model.

Q: What cost of equity estimates are indicated for the Gas LDC Group using the DCF approach?

A: A detailed presentation of DCF results for each member of the Gas LDC Group is

presented on pages 1 and 2 of Attachment VVR-7, and is also summarized in Table VVR-7 below. The average unadjusted DCF estimate for the Gas LDC Group range from 10.30 percent to 11.70 percent. The three unadjusted DCF estimates based upon earnings growth forecasts demonstrate a central tendency of approximately 11.10 percent. The DCF estimate based upon the 5-year and 10-year historical average earnings growth rate indicates an unadjusted cost of equity of 10.60 percent. On an overall basis, and placing somewhat more emphasis on the forward-looking cost of equity estimates, an unadjusted DCF estimate of 11.00 percent is indicated for the Gas LDC Group. As reflected in Table VVR-7, after making the required flotation cost adjustment to the unadjusted DCF estimate referenced above, the results of my analysis indicate a cost of equity of 11.04 percent for the Gas LDC Group.

Table VVR-7 Average DCF Estimates - Gas LDC Group	
Calculation Method	**Cost of Equity**
Earnings Forecast	
S&P Global	11.70%
Zacks	11.30%
Value Line	10.30%
Recent Historical Annual Earnings Growth Rate	10.60%
Unadjusted DCF Estimate	11.00%
Flotation Cost Adjustment (4 basis points)	x 1.0036%
Indicated DCF Estimate	= 11.04%

Q: In conducting your cost of equity evaluation, have you considered the concerns expressed by the Commission in its Order from Columbia's last rate proceeding (Case No. 2024-00092) with respect to flotation cost adjustments?

A: Yes, I have. In Columbia's last rate order (Case No. 2024-00092) the Commission indicated that it continues to reject the use of flotation cost adjustments in utility rate proceedings in the Commonwealth.[36] While I do understand the Commission's concerns regarding flotation cost adjustments, it is my opinion that these adjustments are necessary to properly reflect the return expectations of

[36] Case No. 2024-00092, *Electronic Application of Columbia Gas of Kentucky, Inc. for an Adjustment of Rates; Approval of Depreciation Study; Approval of Tariff Revisions; and Other Relief* (Ky. PSC, Dec. 30, 2024), Order at 43.

utility stock investors. I will further discuss the rationale for a flotation cost adjustment in Appendix C to my direct testimony. Nevertheless, in recognition of the Commission's stated concerns with regard to these adjustments, I have presented my DCF estimates of the cost of equity on both an adjusted basis and an unadjusted basis for all three of the proxy groups that I evaluated, as is reflected in Table VVR-7, Table VVR-8 and Table VVR-9, respectively.

Q: What cost of equity estimates were indicated for the Combination Utility Group using the DCF approach?

A: DCF estimates for each member of the Combination Utility Group are presented on pages 1 and 2 of Attachment VVR-8 and are summarized in Table VVR-8 below. The unadjusted DCF estimates for the Combination Utility Group range from 9.60 percent to 10.60 percent. The three unadjusted DCF estimates based upon earnings growth forecasts demonstrate a central tendency of approximately 10.25 percent. The DCF estimate based upon the 5-year and 10-year historical average earnings growth rate indicates an unadjusted cost of equity of 9.60 percent. On an overall basis and placing somewhat more emphasis on the forward-looking cost of equity estimates, an unadjusted DCF estimate of 10.20 percent is indicated for the Combination Utility Group. After making the required flotation cost adjustment to the unadjusted DCF estimate, the results of my analysis indicate a cost of equity of 10.24 percent for the Combination Utility Group.

Table VVR-8 Average DCF Estimates Combination Utility Group	
Calculation Method	**Cost of Equity**
Earnings Forecast	
S&P Global	10.60%
Zacks	10.40%
Value Line	9.70%
Recent Historical Annual Earnings Growth Rate	9.60%
Unadjusted DCF Estimate	10.20%
Flotation Cost Adjustment (4 basis points)	x 1.0036%
Indicated DCF Estimate	= 10.24%

Q: What cost of equity estimates were indicated for the Non-Regulated Group using the DCF approach?

A: DCF estimates for each member of the Non-Regulated Group are presented on pages 1 and 2 of Attachment VVR-9 and are summarized in Table VVR-9 below. The unadjusted DCF estimates for the Non-Regulated Group ranged from 10.00 percent to 12.70 percent. The three unadjusted DCF estimates based upon earnings growth forecasts demonstrate a central tendency of approximately 10.20 percent. The DCF estimate based upon the 5-year and 10-year historical average earnings growth rate indicates an unadjusted cost of equity of 12.70 percent. On an overall basis and placing somewhat more emphasis on the forward-looking cost

of equity estimates, an unadjusted DCF estimate of 10.60 percent is indicated for the Non-Regulated Group. After making the required flotation cost adjustment to this estimate, the results of my DCF analysis indicate a cost of equity of 10.64 percent for the Non-Regulated Group.

Table VVR-9
Average DCF Estimates – Non-Regulated Group

Calculation Method	Cost of Equity
Earnings Forecast	
S&P Global	10.50%
Zacks	10.00%
Value Line	10.10%
Recent Historical Annual Earnings Growth Rate	12.70%
Unadjusted DCF Estimate	10.60%
Flotation Cost Adjustment (4 basis points)	x 1.0036%
Indicated DCF Estimate	= 10.64%

Consistent with established regulatory principles, authorized returns for regulated utilities should be similar to returns offered by comparable-risk firms operating in the competitive marketplace, the latter of which is demonstrated in Table VVR-9 above.

C. Capital Asset Pricing Model ("CAPM") Analysis

Q: Please provide an overview of the CAPM and the theoretical basis for using it to estimate a utility's cost of equity.

A: The CAPM is a market-based risk and return investment model which derives its theoretical underpinnings from both Capital Market Theory and Modern Portfolio Theory ("MPT").[37] Originally developed by William Sharpe in the early 1960s for investment analysis purposes, the CAPM is considered an ex-ante, forward-looking model which recognizes that investors are generally risk-averse and will demand higher returns in exchange for assuming higher levels of investment risk. The traditional CAPM equation is expressed as follows:

$$K = R_F + \beta(R_M - R_F) \qquad \text{(Equation 1.4)}$$

Where: K = Required rate of return for a stock;
R_F = Expected risk-free rate of return;
β = Beta, or systematic risk of a stock; and
R_M = Expected return for the overall stock market.

The investor required rate of return (K) indicated by the CAPM is equal to the expected risk-free rate of return (R_F) plus a risk premium which is proportional to the level of systematic risk implicit in the security being evaluated. Systematic risk, also referred to as market risk, is the sole risk element found within the CAPM, and refers to the variability of overall stock market returns, which are

[37] MPT, which was developed by Harry Markowitz in the early 1950's, heavily influenced William Sharpe's development of the CAPM. MPT advanced the concept of an "efficient frontier" of dominating investment portfolios, which provided the highest rate of return possible for a given level of investment risk, as measured by the portfolio's covariance of returns. Essential concepts from MPT which influenced the development of the CAPM included the risk and return tradeoff relationship, and the value of diversification for eliminating firm-specific investment risk. Markowitz and Sharpe both earned the Nobel Prize in Economics in 1990 for their body of work relative to these classic financial theories.

largely influenced by socioeconomic and political trends. It is only this systematic risk which commands a return premium within the CAPM, as a critical assumption underlying the model is that investors have already eliminated firm-specific investment risk in their investment portfolios via diversification.

Within the CAPM framework, an individual stock's contribution to the systematic risk of a given portfolio is indicated by the stock's beta (β) coefficient. In essence, the beta coefficient measures the co-variability of the price movements of an individual stock versus the price movements of the total market portfolio. The beta of the market portfolio is equal to 1.0, which reflects a level of variability consistent with the overall stock market. Stocks with beta values *lower* than 1.0 have a lower expected variability and therefore less systematic risk than the overall market, while stocks with betas *higher* than 1.0 have a higher expected variability and thus greater systematic risk than the overall market. To determine the investor-required risk premium for an individual stock, the difference between the expected market return (R_M) and the expected risk-free rate of return (R_F), which is defined as the market risk premium ($R_M - R_F$), is proportionately adjusted based upon the stock's beta. Lastly, the investor required rate of return (K) is determined by adding the expected risk-free rate of return to the stock-specific risk premium.

Much like other analytical models including the DCF model, the CAPM is

premised upon strict underlying assumptions, which are not always observed in reality.[38] Nonetheless, the model still possesses useful explanatory and predictive abilities, as it has been consistently demonstrated that beta is both positively and linearly correlated to security returns. At the same time, as I will discuss later in my testimony, empirical studies have also demonstrated that the risk-return relationship indicated by the CAPM, as graphically depicted by the Security Market Line ("SML"), is in reality not as steeply sloped as the model implies. In fact, the empirical evidence has shown that the implied y-axis intercept of the SML is actually higher, while the slope of the SML is actually flatter than what is predicted by the traditional CAPM. The implication of these findings is that cost of equity estimates derived from the traditional CAPM will tend to underestimate the investor-required rate of return for lower beta stocks, including gas utility stocks, absent an adjustment to the traditional model.

Q: Is the CAPM commonly used to estimate the cost of equity, and does it influence the return expectations of investors?

A: Yes, the CAPM is a widely referenced method for estimating the cost of equity among investment professionals, academics, and corporate finance departments

[38] The strict assumptions underlying the CAPM include: (i) security markets are highly efficient and consistently reflect the true value of a given security; (ii) investors will always pursue their own best economic self-interest, including the maximization of profit and end-of-period wealth; (iii) all investors have the same rate of return expectations; (iv) all investors hold diversified investment portfolios; and (v) investors are not subject to taxes, transaction costs, short-selling restrictions or borrowing restrictions.

and, therefore, influences the return expectations of investors. In the *Fundamentals of Corporate Finance*, a leading college and graduate level textbook, Berk, DeMarzo and Harford, describe the widespread use of the CAPM in the financial markets as well as in corporate and academic settings as follows:

> The CAPM marks the culmination of our examination of how investors in capital markets trade off risk and return. It provides a powerful and widely used tool to quantify the return that should accompany a particular amount of systematic risk.
> ….
> The CAPM is the main method used by most major corporations to determine the equity cost of capital. In a survey of CFOs, Graham and Harvey found that more than 70% rely on the CAPM, and Bruner, Eades, Harris, and Higgins reported that 85% of a sample of large firms rely on it. It has become the most important model of the relationship between risk and return, and for his contributions to the theory, William Sharpe was awarded the Nobel Prize in Economics in 1990.[39]

Further evidence of the CAPM's popularity as a cost of equity analytical model is found in *Corporate Finance: A Focused Approach,* where Ehrhardt and Brigham state:

> Recent surveys found that the CAPM approach is by far the most widely used method. Although most firms use more than one method, almost 74% of respondents in one survey, and 85% in the other, used the CAPM[40].

Lastly, the *Ibbotson® SBBI® Valuation Yearbook* has also stated the following with regard to the widespread use of the CAPM:

---

[39] Jonathan Berk, Peter DeMarzo, and Jarrad Harford, *Fundamentals of Corporate Finance*, Third Edition, (Pearson Education, Inc., 2015), at 384 and 388.

[40] Michael Ehrhardt and Eugene Brigham, *Corporate Finance: A Focused Approach*, (South-Western Cengage Learning, 2008) at 303.

> The capital asset pricing model (CAPM) is a simple and elegant model that describes the expected (future) rate of return on any security or portfolio of securities. It is among the most widely used techniques to estimate the cost of equity[41].

Considering the widespread acceptance of the CAPM in both investment management and academic settings, there can be no doubt that the CAPM exerts significant influence over the return expectations of investors.

Q: In structuring your CAPM analysis, what approach did you take in estimating the market risk premium expectations of investors?

A: To ensure a thorough and comprehensive evaluation of the risk premium expectations of investors, I have completed market risk premium analyses on both a prospective basis and on a historical basis. With regard to my prospective analysis, I have evaluated forward-looking indicators of the market return expectations of investors, along with time-horizon matched forecasts of the risk-free rate of return. As for my historical analysis, I have relied upon the widely referenced historical returns data reported by the Kroll *Cost of Capital Navigator* for the period between 1926 and 2025.

Q: What approach did you take in estimating the prospective market return expectations of investors?

A: To estimate the prospective market return expectations of investors, or "R_M," I

[41] *Ibbotson® SBBI® 2013 Valuation Yearbook* (Morningstar, Inc.) at 43.

have completed forward-looking DCF analyses for both the S&P 500 Index and the Value Line 1,700 stock universe. The results of these DCF analyses, which have been consistently applied to the Gas LDC Group, Combination Utility Group and Non-Regulated Group, are presented on page 1 of Attachment VVR-10. These results are also summarized as follows:

DCF Estimate of Market Return for the S&P 500 Index

1.25% (D/P) + 11.30% (g) = 12.55% (R_M)

Where: D/P = expected dividend yield over the next 12 months;
g = long-term earnings growth rate estimate;
R_M = expected return of the market portfolio.

The DCF results for the Value Line 1,700 stock universe are summarized as follows:

DCF Estimate of Market Return for the Value Line 1,700 Stock Universe

2.11% (D/P) + 8.78% (g) = 10.88% (R_M)(subject to rounding)

Based upon the average results of the above DCF analyses for the S&P 500 Index and the Value Line 1,700 stock universe, an 11.72 percent prospective market return is indicated, which I have applied to each of the respective proxy groups.

Q: What approach did you take in estimating the prospective risk-free rate of return expectations of investors?

A: When discussing appropriate proxies for the risk-free rate of return in *Modern Regulatory Finance*, a widely referenced authoritative guide on utility cost of capital matters, Dr. Roger Morin states the following:

> ….investors price securities on the basis of long-term expectations, including interest rates. Cost of capital models are prospective (i.e., forward-looking) in nature and must take into account current market expectations for the future because investors price securities on the basis of long-term expectations, including interest rates. As a result, in order to produce a meaningful estimate of investors' required rate of return, the CAPM must be applied using data that reflects the expectations of actual investors in the market. While investors examine history as a guide to the future, it is the expectations of future events that influence security values and the cost of capital.
>
> ….
>
> The empirical evidence demonstrates that stock prices do indeed reflect prospective financial input data. Moreover, forecasted interest rates are more relevant than current spot rates since in a regulatory setting rates are being set for the future. In the same way that one relies on forecast growth rates in DCF analyses as we shall see in subsequent chapters, one should rely on interest rate forecasts as proxies for the risk-free rate in the CAPM analysis[42]

It is further noteworthy that the use of interest rate forecasts appropriately synchronizes the time horizon of the expected risk-free rate of return with the prospective market return I have employed within my analysis.

In selecting the appropriate "risk-free" security to evaluate, it should be noted that, despite both Moody's 2025 and S&P's 2011 downgrades of the long-term sovereign

[42] Roger A. Morin, *Modern Regulatory Finance* (PUR Books LLC, 2021) at 171-172.

debt rating of the United States, U.S. Treasury securities remain the closest representation to a risk-free financial asset, largely due to the U.S. government's taxing authority and ability to create new currency. From a duration or tenor standpoint, 30-year Treasury Bonds most closely parallel the investment characteristics of common stock, since both are considered long-term, if not permanent, capital. Furthermore, in the absence of market anomalies, 30-year Treasury yields, like common stocks, reflect the long-term inflation expectations of investors, and are subject to less volatility than shorter-dated Treasury securities.

To ensure a balanced analysis, my risk-free rate of return assumption in this proceeding is based upon a composite value which considers both: (1) the implied forward rates for the 30-year U.S. Treasury bond as indicated by the debt capital markets, and (2) the average actual 30-year Treasury bond yield during the month of December 2025. More specifically, I relied upon the average of the implied forward rates for the 30-year U.S. Treasury bond over the 2026-2030 forecast horizon, which is 4.93 percent,[43] and the December 2025 average actual yield for the 30-year Treasury bond, which is 4.80 percent. By placing an equal weighting on each of these values, my risk-free rate of return assumption incorporates both

[43] Source: Bloomberg Finance L.P.

a forward-looking perspective and also a recent historical perspective. On this basis, I have determined that a reasonable estimate of the risk-free rate of return for purposes of my CAPM analysis is 4.87 percent.

Q: What prospective market risk premium is indicated by your analysis?

A: Based upon a prospectively determined market rate of return of 11.72 percent and a risk-free rate of return of 4.87 percent, a prospective market risk premium of 6.85 percent is indicated (11.72%-4.87%=6.85%).

Q: What average historical market risk premium is indicated by your analysis?

A: Based upon historical returns data published in the Kroll *Cost of Capital Navigator* for the period 1926-2025, a 7.37 percent historical annual average market risk premium is indicated.

Q: Based upon your informed judgment, what level of market risk premium have you applied to your CAPM analysis?

A: As previously stated, to ensure a thorough and comprehensive evaluation of the risk premium expectations of investors, I have conducted market risk premium analyses on both a prospective basis and a historical basis. Therefore, by using the historical average risk premium as reported by the Kroll *Cost of Capital Navigator* in combination with the prospectively determined risk premium discussed above, I have taken a balanced approach in estimating the risk premium expectations of investors. Accordingly, the expected market risk premium indicated by my

analysis is 7.11 percent ((6.85% + 7.37%)/2 = 7.11%).

Q: Which beta values did you reference in your CAPM analysis?

A: I referenced the published betas from the Value Line Investment Survey, a widely referenced source of beta values in utility regulatory proceedings. The average betas reported by Value Line for the Gas LDC Group, Combination Utility Group and Non-Regulated Group are 0.79, 0.77, and 0.76, respectively.

Q: When applying the CAPM, what variants of the CAPM should be evaluated to fully reflect the return expectations of investors?

A: Multiple academic studies have advocated the use of a size-premium adjustment to the traditional CAPM.[44] These studies have revealed that small capitalization stocks have historically earned returns that are materially higher than the returns predicted by the CAPM. Indeed, the empirical research strongly suggests that beta, or systematic risk alone, does not fully explain the higher relative returns earned by small capitalization stocks. The *2023 SBBI Yearbook* explains the size phenomenon as follows:

> One of the most remarkable discoveries of modern finance is the finding of a relationship between company size and return, generally referred to as the "size effect". The size effect is based on the empirical observation that companies of smaller size tend to have higher returns than do larger companies.
> ….

[44] See, Michael Annin, "Equity and the Small-Stock Effect," *Public Utilities Fortnightly*, October 15, 1995, 42-43; and, Eugene F. Fama and Kenneth R. French, "The Cross-Section of Expected Stock Returns," *The Journal of Finance*, 48 (June 1992), at 427-465.

> The company size phenomenon is remarkable in several ways. First, the greater risk of small-cap stocks does not, in the context of the capital asset pricing model, fully account for their higher returns over the long term. In the capital asset pricing model (CAPM) only systematic, or beta risk, is rewarded; small-cap stock returns have exceeded those implied by their betas.
> ….
> The increased risk faced by investors in small stocks is quite real[45].

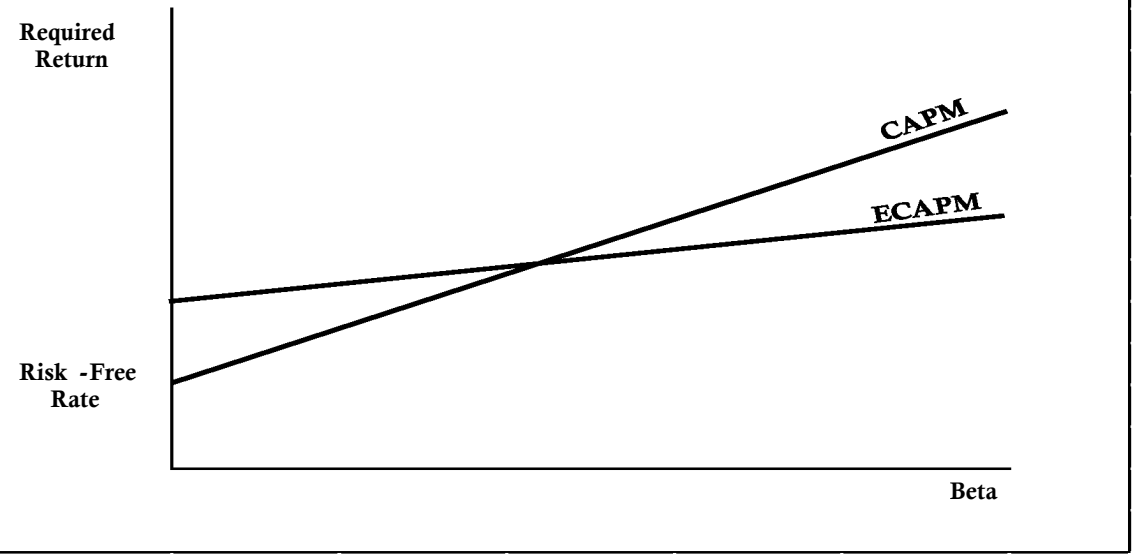
Therefore, to correct for the inherent deficiencies of the CAPM relative to smaller capitalization stocks, the Kroll *Cost of Capital Navigator* reports size premiums, which can be used in conjunction with the CAPM to more accurately estimate the return expectations of investors relative to small and mid-capitalization stocks. Based upon an average market capitalization of $10.4 billion, the Gas LDC Group would be classified as a Decile 4 portfolio and assigned a size premium of 0.37 percent. Based on an average market capitalization of $25.5 billion, the Combination Utility Group would be classified as a Decile 2 portfolio, and assigned an average size premium of 0.27 percent. Lastly, based upon an average market capitalization of $315.2 billion, the Non-Regulated Group would be classified as a large-cap, Decile 1 Portfolio, and assigned a size premium of 0.01 percent. In the absence of these size premium adjustments, the results indicated by the traditional CAPM for the three respective proxy groups understate the return expectations of investors.

[45] *2023 SBBI Yearbook*, (Kroll LLC), at 143, 145 and 147.

Q: Have you considered any other variants of the CAPM?

A: Yes. I have also considered the ECAPM within my evaluation. The ECAPM model is based upon extensive empirical evidence that the risk-return relationship between beta and stock returns, as graphically depicted by the Security Market Line reflected in Table VVR-10 below, is actually flatter than what is predicted by the traditional CAPM.

Table VVR-10
Security Market Line
CAPM and ECAPM



In a 1989 empirical study conducted by Morin, a simplified version of the ECAPM was derived and is expressed as follows:[46]

$$K = R_F + 0.25\,(R_M - R_F) + 0.75\,\beta(R_M - R_F)$$

[46] Roger A. Morin, *Modern Regulatory Finance* (PUR Books LLC, 2021), at 220-221.

In essence, the ECAPM places a 25 percent weighting on the overall market risk premium and a 75 percent weighting on the company specific, beta-adjusted risk premium. The use of the same or similar forms of the ECAPM has been recognized by state public service commissions, including the Montana Public Service Commission, the New York Public Service Commission and the Regulatory Commission of Alaska. The results of my ECAPM analysis for the Gas LDC Group, Combination Utility Group and Non-Regulated Group are presented within pages 2, 3 and 4 of Attachment VVR-10, respectively, and are also summarized in Table VVR-11 below.

Q: What were the overall results of your application of the CAPM, including the variants of the model you evaluated?

A: A detailed presentation of the results of my CAPM analysis for the Gas LDC Group, Combination Utility Group and Non-Regulated Group are presented in Attachment VVR-10 and are also summarized in Table VVR-11 below. Although substantial empirical evidence supports the use of both the CAPM with size adjustments and the ECAPM, I have incorporated all three model variants into my evaluation, including the traditional CAPM, in determining the CAPM-indicated cost of equity for each of the respective proxy groups.

Table VVR-11
CAPM Results by Model Variant

Model Variant	Gas LDC Group	Comb. Utility Group	Non-Reg. Group
Traditional CAPM	10.48%	10.35%	10.27%
+ Flotation adjustment	0.04%	0.04%	0.04%
Traditional CAPM	10.52%	10.39%	10.31%
CAPM (with size adj.)	10.85%	10.62%	10.28%
+ Flotation adjustment	0.04%	0.04%	0.04%
CAPM (with size adj.)	10.89%	10.66%	10.32%
Empirical CAPM	10.86%	10.76%	10.70%
+ Flotation adjustment	0.04%	0.04%	0.04%
Empirical CAPM	10.90%	10.80%	10.74%

These results, which incorporate the appropriate flotation cost adjustment, indicate a CAPM-derived cost of equity having a central tendency of around 10.75 percent for the Gas LDC Group, 10.60 percent for the Combination Utility Group, and 10.45 percent for the Non-Regulated Group.

D. Risk Premium Method ("RPM") Analysis

Q: Please provide an overview of the RPM and the theoretical basis for using it to estimate a utility's cost of equity.

A: The RPM is based upon the fundamental premise that a company's cost of common equity is greater than its prospective cost of debt, due to the additional risks associated with investing in common stocks. The most important of these

risks is residual claim risk, which arises due to the subordinated position of common stockholders relative to bondholders and preferred stockholders. In essence, common shareholders stand "last in line" with respect to the distribution of a company's earnings, since common stock dividends are paid only after contractually required debt service payments and discretionary preferred dividend payments have been made. The same priority of claims also applies to asset-sale proceeds in the event of a bankruptcy liquidation scenario, where common shareholders typically only recover a small fraction, if any, of their original investment. As compensation for bearing these additional risks, common stock investors demand an equity risk premium over and above a company's cost of debt. Considering that the equity risk premium is a forward-looking concept, it must be estimated on the basis of investor expectations and cannot be directly observed. Once the expected risk premium has been estimated, it can be added to the company's prospective cost of debt to estimate the cost of common equity, as follows:

$$K = C_D + P_R$$

Where: K = expected cost of common equity;
C_D = company's prospective cost of debt;
P_R = expected equity risk premium.

Q: Is the RPM commonly used to estimate the cost of equity and does it influence

the return expectations of investors?

A: Yes, the RPM is a widely referenced cost of equity model among investors, analysts and academics, and therefore influences investor return expectations. Evidence of the popularity of the RPM is found in *Corporate Finance: A Focused Approach*, where Ehrhardt and Brigham state that "three methods typically are used" in estimating the cost of common equity, one of which is the RPM[47].

Q: How did you approach your RPM analysis?

A: In applying the RPM to the three respective proxy groups, I employed a virtually identical approach, as only a few minor adjustments were required for the Non-Regulated Group. In essence, my approach involved estimating the prospective long-term bond yields (C_D) for each of the proxy groups based upon their average credit ratings, and then estimating the appropriate equity risk premium (P_R) for each of the three groups. Once these two components were derived for each of the proxy groups, they were simply added together to arrive at the RPM-indicated cost of equity. My comprehensive RPM analysis is presented within Attachment VVR-11. Summary results for the Gas LDC Group, Combination Utility Group and the Non-Regulated Group are presented on pages 1, 7 and 9 of Attachment VVR-11, respectively. A detailed discussion of the RPM results for the Gas LDC

[47] M. Ehrhardt and E. Brigham, *Corporate Finance: A Focused Approach* (South-Western Cengage Learning, 2008), at 294.

Group is presented herein. Quantitative results for the Combination Utility Group and Non-Regulated Group are presented within pages 7-10 of Attachment VVR-11.

Q: How did you derive the 6.01 percent prospective bond yield for the Gas LDC Group?

A: The bond yields referenced in the RPM must appropriately reflect the forward-looking return expectations of investors. For this reason, in determining the "C_D" component of the RPM equation, I have employed a forward-looking long-term bond yield for the Gas LDC Group based upon the Group's average long-term credit ratings of "A-" from S&P, and "Baa1" from Moody's. As reflected on page 1 of Attachment VVR-11, this was accomplished by first evaluating forecasted bond yields for "A" rated corporate bonds, and then making the necessary credit spread adjustments to reflect the higher level of default risk associated with "A- / Baa1" rated utility bonds.

As reflected on pages 1 and 2 of Attachment VVR-11, the estimated composite "A" rated corporate bond yield for the 2026-2030 period is 5.85 percent. This composite yield was determined on the basis of applying an equal weighting between: (1) the implied forward rates for "A" rated corporate bonds for the 2026-2030 period as indicated by the debt capital markets, and (2) the recent actual average "A" rated corporate bond yield for December 2025.

An upward adjustment of 0.06 percent was required to reflect the credit spread differential between "A" rated corporate bonds and "A" rated utility bonds, both of which reflect Moody's generic ratings categories. A further upward adjustment of 0.10 percent was required to reflect the credit spread differential between the generic rating category of "A" and the more precise "A-" rating from S&P and "Baa1" rating from Moody's. Additional information supporting both of these credit spread adjustments can be found within pages 1 and 3 of Attachment VVR-11. The prospective bond yield for the Gas LDC Group was derived by adding both of the aforementioned credit spread adjustments to the prospective "A" rated corporate bond yield, which resulted in a 6.01 percent prospective bond yield.

Q: What general approach have you taken in estimating the expected equity risk premium for the Gas LDC Group?

A: Consistent with established practices, I have conducted equity risk premium analyses using both the total market index approach and the public utility index approach. The total market approach is considered an "indirect" approach, since an equity risk premium is initially estimated for the overall market portfolio, and is subsequently adjusted to reflect the specific risk profile of the applicable proxy group. Within the framework of the total market approach, I have conducted separate risk premium analyses on both a historical basis and a prospective basis,

as reflected on page 4 of Attachment VVR-11. In contrast, the public utility index approach is considered a "direct" approach, since the expected equity risk premium is estimated by comparing average historical holding period returns for the S&P 500 Utility Index to historical yields on long-term public utility bonds, without the need for any further risk adjustments. The results of my public utility index approach analysis are presented on page 5 of Attachment VVR-11.

Q: In applying the total market index approach to the Gas LDC Group, how did you arrive at the indicated equity risk premium of 4.84 percent?

A: As previously discussed, in applying the total market index approach, I conducted both historical and prospective risk premium analyses, each of which brings different strengths and perspectives into the evaluation process.

1. Historical Risk Premium Analysis

To facilitate a historical risk premium analysis under the total market index approach, I have relied upon the historical holding period returns information for large company stocks (proxied by the S&P 500 Index), as reported by the Kroll *Cost of Capital Navigator*. I have also relied upon historical holding period returns for high-grade, long-term corporate bonds, as reported by Morningstar's corporate bond indices and the *SBBI Yearbook*. It is important to note that when the average historical risk premium is used as a proxy for the prospective risk premium, its predictive value is enhanced when the longest possible historical period is

evaluated. Accordingly, I have utilized the average historical holding period returns for the entire 100-year period (1926-2025) for which data is available. The arbitrary use of shorter time periods would subject the risk premium analysis to greater potential volatility from short-term market trends and/or aberrations, which would not reflect the long-term expectations of investors. Moreover, use of the longest possible historical period for which data is available will incorporate a greater number of business and interest rate cycles into the analysis, further enhancing its predictive value. Indeed, Morin provides support for this approach in *Modern Regulatory Finance* where he maintains:

> To estimate the MRP, one should rely on returns realized over long time periods rather than returns realized over more recent time periods because realized returns can be substantially different from prospective returns anticipated by investors, especially when measured over short time periods. But over very long periods, investor expectations coincide with realizations; otherwise, investors would never invest any money. A risk premium study should consider the longest possible period for which data are available. Short-run periods during which investors earned a lower risk premium than they expected are offset by short-run periods during which investors earned a higher risk premium than they expected. Moreover, the use of the entire study period in estimating the appropriate market risk premium minimizes subjective judgment and encompasses many diverse regimes of inflation, interest rate cycles, and economic cycles. There is no compelling reason to weigh recent returns more heavily than distant returns because of the random behavior of the market risk premium.
>
> ….Clearly, the accuracy of the realized risk premium as an estimator of the prospective risk premium is enhanced by increasing the number of years used to estimate it in the same way that one can predict with a good deal of confidence that approximately 50 heads

will appear in 100 tosses of a coin.[48]

Therefore, based upon the holding period returns for the entire historical period for which data is available (from 1926 to 2025), a 6.15 percent historical equity risk premium is indicated using the total market index approach. As shown on page 4 of Attachment VVR-11, this result is based upon the arithmetic average annual return of 12.23 percent for large company stocks (S&P 500 Index), and the arithmetic average annual return of 6.08 percent for high-grade, long-term corporate bonds. Use of the arithmetic average risk premium is appropriate since it best reflects the forward-looking risk premium expectations of investors and the potential variability of expected returns. In contrast, the geometric mean is more suitable for reporting past investment performance, since it reflects a consistently compounded or "smoothed" rate of growth over a given historical period.

In the *Fundamentals of Corporate Finance*, Berk, DeMarzo and Harford further elucidate why the arithmetic average is the appropriate measure to reference for purposes of estimating *future* investment returns, where the authors state the following:

> Which is a better description of an investment's return? The compound annual [geometric] return is a better description of the long-term *historical performance* of an investment. It describes the average annual compound return for that particular history of returns.

[48] Roger A. Morin *Modern Regulatory Finance* (PUR Books LLC, 2021), at 180.

> ….
>
> On the other hand, the arithmetic average return should be used when trying to estimate an investment's *expected* return over a *future* horizon based on its past performance. If we view past annual returns as independent realizations of actual returns from the same set of possible returns, then we know from statistics that the arithmetic average provides the best estimate of the true mean.[49]

Further support for using the arithmetic average equity risk premium is also found in the *2023 SBBI Yearbook*, a widely cited investment guide, which states the following:

> The equity risk premium data presented in this book are arithmetic average risk premiums as opposed to geometric average risk premiums. The arithmetic average equity risk premium can be demonstrated to be most appropriate when discounting future cash flows. For use as the expected equity risk premium in either the CAPM or the building-block approach, the arithmetic mean or the simple difference of the arithmetic means of stock market returns and riskless rates is the relevant number. This is because both the CAPM and the building-block approach are additive models, in which the cost of capital is the sum of its parts. The geometric average is more appropriate for reporting past performance because it represents the compound average return.[50]

2. Prospective Risk Premium Analysis

A prospective risk premium analysis is also required to fully capture the forward-looking return expectations of investors. Indeed, it is often maintained that prospective risk premiums bear the greatest relevance to the cost of equity

[49] Jonathan Berk, Peter DeMarzo, and Jarrad Harford, *Fundamentals of Corporate Finance*, Third Edition, (Pearson Education, Inc., 2015), at 341.

[50] *2023 SBBI Yearbook* (Kroll, LLC), at 193.

estimation process, since they incorporate both historical trends and changes expected to occur in the future. To facilitate a prospective risk premium analysis using the total market approach, it was necessary to estimate both the prospective market return expectations of investors and the prospective corporate bond yield on a time horizon matched basis. As previously referenced in the CAPM section of my testimony, and as illustrated on page 1 of Attachment VVR-10, I have estimated the prospective market return expectations of investors by completing DCF analyses for both the S&P 500 Index and the Value Line 1,700 stock universe. The results of these analyses are as follows:

<u>DCF Estimate of Market Return for the S&P 500 Index</u>

1.25% (D/P) + 11.30% (g) = 12.55% (R_M)

<u>DCF Estimate of Market Return for the Value Line 1,700 Stock Universe</u>

2.11% (D/P) + 8.78% (g) = 10.88% (R_M)(subject to rounding)

Based upon these DCF results, an 11.72 percent ((12.55% + 10.88%)/2 = 11.72%) prospective market return is indicated. As a proxy for the prospective corporate bond yield, I have relied upon the 5.62 percent composite "Aaa" rated corporate bond yield as presented on page 2 of Attachment VVR-11. Based upon these values, a 6.10 percent prospective equity risk premium is indicated under the total market index approach (11.72% - 5.62% = 6.10%).

3. Total Market Equity Risk Premium and Risk Adjustment

To ensure a balanced approach in assessing the risk premium expectations of investors, I have placed equal emphasis on the historical risk premium and prospective risk premium results indicated above. Using this balanced approach, a 6.12 percent total market risk premium is indicated ((6.15%+6.10%)/2=6.12%). Considering that this result must be adjusted to recognize the risk differential between the overall market index and the Gas LDC Group, I have applied an average beta value of 0.79 to the indicated market risk premium to derive a risk premium which is applicable to the Gas LDC Group. Therefore, as reflected on page 4 of Attachment VVR-11, the indicated equity risk premium for the Gas LDC Group was determined to be 4.84 percent (6.12% x 0.79 = 4.84%[51]).

Q: In applying the public utility index approach to the Gas LDC Group, how did you arrive at the indicated equity risk premium of 5.07 percent?

A: The results of my public utility index approach analysis are presented on page 5 of Attachment VVR-11. As a proxy for the total return expectations of investors relative to utility stocks, I have evaluated both the average historical holding period returns for the S&P 500 Utilities Index, as well as the currently implied equity risk premium for the same index. With regard to the average historical holding period returns, for the 100-year period covering 1926-2025, the average

[51] Subject to rounding differences.

annual total return for this index was 10.81 percent. During this same period, the average annual yield for long-term utility bonds bearing an "A" rating from Moody's was 6.21 percent. Historical yields on "A" rated utility bonds were selected for evaluation since "A" rated bonds represent the mid-point credit rating among the historical utility bond yields that have been reported by Moody's and Mergent (historical yields on three credit ratings have been reported: "Aa," "A" and "Baa"). A detailed breakdown of these historical returns is presented on page 6 of Attachment VVR-11. Based upon the foregoing historical returns, a 4.59 percent historical equity risk premium is indicated for the Gas LDC Group (10.81% - 6.21% = 4.59%[52]).

As further detailed in the bottom section of page 5 of Attachment VVR-11, I have also evaluated the currently implied equity risk premium in the prevailing market environment, by conducting an analysis of the expected equity return for the S&P Utilities Index, which yielded an expected return of 11.22 percent. I then compared the recent yields on "A" rated utility bonds (5.68 percent) to the expected equity return, which yielded a currently implied equity risk premium of 5.54 percent (11.22%-5.68%=5.54%). Lastly, to ensure a balanced estimate of the equity risk premium under the Public Utility Index Approach, I referenced the

[52] Subject to rounding differences.

average of the equity risk premium estimates derived under the historical approach and the currently implied approach, which yielded an indicated equity risk premium of 5.07 percent ((4.59% +5.54%)/2 = 5.07%).

Q: Based upon your RPM analysis using both the total market index approach and the public utility index approach, what level of equity risk premium and cost of equity are indicated for the Gas LDC Group?

A: Consistent with established practices, I have placed equal emphasis on the total market index approach and the public utility index approach, and have concluded that 4.95 percent is a reasonable estimate of the investor-expected equity risk premium for the Gas LDC Group. Based upon an expected risk premium of 4.95 percent, and a 6.01 percent prospective long-term bond yield for the Gas LDC Group, I have also concluded that the unadjusted RPM-indicated cost of equity for the Gas LDC Group is 10.96 percent (4.95%+6.01%=10.96%). Consistent with the other market-based analytical models, to this result I added the required flotation cost adjustment of 0.04 percent, which yielded an adjusted RPM-indicated cost of equity of 11.00 percent for the Gas LDC Group.

Q: Under the RPM, what cost of equity was indicated for the Combination Utility Group and the Non-Regulated Group?

A: As reflected on page 7 of Attachment VVR-11, the unadjusted RPM-indicated cost of equity for the Combination Utility Group was determined to be 10.90 percent.

Consistent with the other market-based analytical models, I added the required 0.04 percent flotation cost adjustment to this result, which yielded an adjusted RPM-indicated cost of equity of 10.94 percent for the Combination Utility Group. Lastly, as reflected on page 9 of Attachment VVR-11, the unadjusted RPM-indicated cost of equity for the Non-Regulated Group was determined to be 10.48 percent. Consistent with the other market-based analytical models, I added the required 0.04 percent flotation cost adjustment to this result, which yielded an adjusted RPM-indicated cost of equity of 10.52 percent for the Non-Regulated Group. The results of my RPM evaluation are summarized in Table VVR-12 below.

Table VVR-12
Risk Premium Method Results

Model Variant	Gas LDC Group	Comb. Utility Group	Non-Reg. Group
Risk Prem. Method	10.96%	10.90%	10.48%
+ Flotation cost adjust.	0.04%	0.04%	0.04%
Risk Premium Method	11.00%	10.94%	10.52%

Q: Can you please summarize the results from the various cost of equity analytical models you evaluated, as well as your cost of equity recommendations for purposes of this proceeding?

A: Yes, for this purpose, I present below Table VVR-1, Table VVR-2, Table VVR-3 and Table VVR-4, each of which I presented earlier in my testimony. My quantitative evaluation resulted in a total of five individual estimates of the cost of equity for the Gas LDC Group, which serves as my core proxy group in this proceeding, as well as ten additional estimates of the cost of equity for the complementary proxy groups that I evaluated, specifically the Combination Utility Group and the Non-Regulated Group.

Considering that Columbia is a pure-play local gas distribution company, my cost of equity recommendations in this proceeding are based entirely upon the analytical model results yielded for the Gas LDC Group. In contrast, the complementary proxy groups that I evaluated served to provide a check of reasonableness on the analytical results yielded for the Gas LDC Group. The five individual estimates of the cost of equity derived from my evaluation of the Gas LDC Group are reflected in Table VVR-1 below.

Table VVR-1 Cost of Equity Estimates for CKY Analytical Model Results Gas LDC Group	
Method/Model	**Gas LDC Group**
DCF	11.04%
Traditional CAPM	10.52%
CAPM (w/size adj.)	10.89%
ECAPM	10.90%
Risk Premium	11.00%

As can be seen in Table VVR-1 above, these individual estimates of the cost of equity range from 10.52 percent to 11.04 percent, with a midpoint value of 10.78 percent. A further analysis of the above individual model results yielded the following measures of central tendency for each of the models or methods employed, which I present in Table VVR-2 below.

Table VVR-2 Cost of Equity Estimates for CKY Measures of Central Tendency Gas LDC Group	
Median DCF Result	11.04%
Average DCF Result	11.04%
Median CAPM Result	10.89%
Average CAPM Result	10.77%
Median RPM Result	11.00%
Average RPM Result	11.00%

Based upon these measures of central tendency, I have concluded that an appropriate point estimate of CKY's cost of equity in this proceeding is 10.95 percent and therefore recommend that the Commission adopt a cost of equity of 10.95 percent in the determination of the overall fair rate of return for the Company.

Q: Please summarize the analytical results yielded for the two complementary proxy groups you evaluated in this proceeding, specifically the Combination Utility Group and the Non-Regulated Group.

A: My evaluation of the Combination Utility Group and the Non-Regulated Group yielded cost of equity estimates that further corroborated the results for the Gas LDC Group. The ten individual estimates of the cost of equity yielded for the Combination Utility Group and the Non-Regulated Group are presented in Table VVR-3 below.

Table VVR-3 Analytical Model Results Complementary Proxy Groups		
Method/Model	**Comb. Utility Group**	**Non-Reg. Group**
DCF	10.24%	10.64%
Traditional CAPM	10.39%	10.31%
CAPM (w/size adj.)	10.66%	10.32%
ECAPM	10.80%	10.74%
Risk Premium	10.94%	10.52%

These results reflect a range of cost of equity estimates between 10.24 percent and 10.94 percent, with a midpoint value of 10.59 percent, which is comparable to the results yielded for the Gas LDC Group.[53]

A further analysis of the above individual model results yielded the following measures of central tendency for each of the models employed in evaluating the Combination Utility Group and the Non-Regulated Group, which I present in Table VVR-4 below.

[53] More specifically, as reflected in Table VVR-1 presented earlier, the individual cost of equity results yielded for the Gas LDC Group range from 10.52 percent to 11.04 percent, with a midpoint value of 10.78 percent.

Table VVR-4 Measures of Central Tendency for the Complementary Proxy Groups	
Median DCF Result	10.44%
Average DCF Result	10.44%
Median CAPM Result	10.53%
Average CAPM Result	10.54%
Median RPM Result	10.73%
Average RPM Result	10.73%

These results provide a check of reasonableness on the cost of equity results yielded for the Gas LDC Group, particularly considering that the Combination Utility Group and Non-Regulated Group have slightly lower investment risk profiles compared to the Gas LDC Group. Therefore, considering that the Gas LDC Group constitutes my core proxy group in this proceeding, and that the results yielded for the complementary proxy groups have corroborated the results for the Gas LDC Group, it is my opinion that an appropriate point estimate of Columbia's cost of equity in the current market environment is 10.95 percent.

Q: Does this conclude your Prepared Direct Testimony?

A: Yes.

Appendix A

Appendix A

DCF Analysis - Detailed Discussion

1. Determination of the Dividend Yield Component

Since the DCF model recognizes that investors value securities on the basis of prospective cash flows, it is essential that the analyst determine the amount of dividend payments (D_1) which are expected to be received over the next twelve months. Utilizing the current dividend amount (D_0) would not be appropriate under DCF principles, since current dividends are not forward-looking and could potentially underestimate the cost of equity. For this reason, estimates of dividends to be paid over the next twelve months by each company comprising the Gas LDC Group, Combination Utility Group and Non-Regulated Group were obtained from the Value Line Summary and Index, and serve as the expected dividend payment (D_1) within my DCF analyses.

In selecting the appropriate stock price (P_0) to utilize in calculating the dividend yield, it is important to remember that under the iterative market valuation process, price equilibrium only occurs when investors have realized their expected rate of return, or "K." In other words, the current stock price (P_0) has embedded within it the current forward-looking return expectations of investors, although the latter cannot be directly observed. Therefore, to properly estimate the expected cost of equity, it is essential that the current stock price (P_0) be used when calculating the dividend yield component, since the "P" and

"K" components of the model are simultaneously determined upon reaching equilibrium, and thus have a time dependency on one another. Consistent with the semi-strong version of the Efficient Market Hypothesis, use of the current stock price is appropriate, since it incorporates all relevant publicly-available information and thus captures the current forward-looking growth expectations of investors.

In contrast, using an average of stock prices over some historical period, such as six to twelve months, would reflect outdated market information and investor growth expectations, which would not be representative of current market conditions. Therefore, such an approach would be inconsistent with the core tenets of the Efficient Market Hypothesis. Moreover, using past averages of stock prices would also create a time period mismatch among the components of the DCF model, since the dividend yield component would be based upon past stock prices which reflect previous growth expectations, while the growth component ("g") of the model would reflect the current forward-looking growth expectations of investors.

Notwithstanding these valid arguments, simply referencing the most recent day's closing stock price can present a different challenge in the form of temporary price aberrations, which may be attributable to volatile market conditions, the unanticipated release of company information, or short-term supply and demand imbalances. Therefore, with respect to the companies comprising the Gas LDC Group, Combination Utility Group and Non-Regulated Group, I have defined the current stock price (P_0) as an average closing

stock price that is calculated on the basis of the composite average of the 30-day average, 60-day average and 90-day average stock prices. This approach places the most emphasis on the 30-day average stock price, but also provides some weighting to the 60-day average and 90-day average stock prices. More specifically, this approach places a one-half weighting on the 30-day average stock price, a one-third weighting on the 60-day average stock price, and a one-sixth weighting on the 90-day average stock price. Taking this approach mitigates the effects of short-term price aberrations for the companies comprising these three proxy groups, while still recognizing the basic tenets of the Efficient Markets Hypothesis.

Finally, to determine the expected dividend yield for the companies comprising the Gas LDC Group, Combination Utility Group and Non-Regulated Group, the expected dividend (D_1) was simply divided by the current stock price (P_0) as defined above.

2. Growth Component – General Approach

There is no question that discerning the long-term growth expectations of investors is the most difficult and controversial aspect of implementing the DCF constant growth model, as it requires the analyst to get inside the "collective psyche" of a large universe of investors. Considering that the DCF model is technically focused on the growth of dividends into perpetuity, a reliable forecast of sequential dividend payments into the distant future would provide an appropriate indication of investors' long-term growth

expectations. However, dividend forecasts for multi-decade periods are simply not available, so to implement the DCF model, the analyst must rely upon other available indicators which are likely to influence the growth expectations of investors. As such, in the initial stages of my DCF analysis, I evaluated a variety of historical and forward-looking growth indicators, each of which could potentially influence investor expectations.

Recognizing that historical growth trends can influence the future growth expectations of investors, rate of return analysts often consider historical trends when estimating the growth component of the DCF model. In so doing, the presumption is that investors extrapolate past growth patterns in forming their future expectations. In my judgment, evaluating historical growth indicators is a reasonable first step in the DCF growth rate evaluation process, particularly for companies with a history of stable performance. Nevertheless, while historical growth trends clearly provide a valuable point of reference, the analyst must guard against placing too much emphasis upon them, as they may no longer reflect the current growth expectations of investors. Indeed, the growth expectations of investors today may be very different from average growth rates realized in the past due to structural changes within the utility industry, changes in operating costs and expected profitability, and/or changes in general economic conditions. Also, it is often argued that historical growth trends are already factored into forward-looking

growth projections, including analyst earnings forecasts, and that care should therefore be taken to ensure that historical data is not inadvertently double-counted.

Lastly, when evaluating historical growth trends, the analyst generally finds that the strict assumptions required under constant growth theory have not held true or been maintained, as is often reflected in differing historical growth rates between dividends-per-share ("DPS"), earnings-per-share ("EPS") and book value-per share ("BVPS"). Thus, while the analyst implicitly accepts the strict assumptions of the constant growth model on a prospective basis, this is rarely the case in retrospect, which may call into question the usefulness of historical indicators in deriving the constant growth rate assumption.

Considering these multiple shortcomings, historical growth indicators should never be relied upon exclusively and significant emphasis should also be placed on forward-looking growth indicators. Therefore, consistent with accepted practices, I have evaluated both historical and forward-looking growth indicators for several key variables, including EPS, DPS, and BVPS. More specifically, with regard to historical growth rates, for each member of the Gas LDC Group and Combination Utility Group, I have completed a traditional analysis of the 5-year and 10-year average historical growth rates for EPS, DPS, and BVPS. All 5-year and 10-year historical growth rate information was sourced from the Value Line Investment Survey. The results of my historical growth rate analysis for EPS, DPS and BVPS for the Gas LDC Group and Combination Utility Group are presented on page 5 of Attachment VVR-7 and Attachment VVR-8, respectively.

With regard to projected growth rates, for each member of the Gas LDC Group, Combination Utility Group and Non-Regulated Group, I have focused my analysis on projected growth rates for EPS, but I have also evaluated historical EPS growth rates. Growth forecasts for EPS were sourced from the Value Line Investment Survey, while EPS consensus growth estimates from equity analysts were sourced from S&P Global and Zacks. The historical EPS growth rates were sourced from Value Line. The results of my growth rate analyses for the Gas LDC Group, Combination Utility Group and Non-Regulated Group are presented on pages 1 and 2 of Attachment VVR-7, Attachment VVR-8 and Attachment VVR-9, respectively.

3. Growth Component
Dividend Growth Forecasts vs. Earnings Growth Forecasts

Notwithstanding the fact that the DCF model is conceptually a dividend-based model, in practice there exists a fundamental challenge in attempting to reference dividend forecasts to estimate the growth expectations of investors. Simply stated, dividend forecasts are not widely-referenced by investors, and for this reason, they are only published by a limited number of information service providers. In contrast, earnings growth forecasts are widely-available from a variety of internet-based and print media sources. As I will discuss later, earnings forecasts are widely-referenced by investors and are available to the general public from a variety of sources. It should also be noted that even John Burr Williams, who originally developed the long-form and constant growth versions of the

DCF model, found "no contradiction" between his DCF formula which emphasized dividends, and the "common precept" that earnings constitute the source of value for stocks. Indeed, over the long-run, either valuation approach would be expected to produce the same end result. Lastly, Williams also recognized the challenges associated with developing long-term dividend forecasts, when he concluded in *The Theory of Investment Value:* "How to estimate the future dividends for use in our formula is, of course, the difficulty[1]".

4. Growth Component
The Importance of Earnings Growth Forecasts

Among the various forms of growth estimates I evaluated, I place the greatest emphasis on the consensus earnings estimates of "sell-side" equity analysts, along with earnings forecasts published by the Value Line Investment Survey. Substantial academic research has demonstrated that equity analyst forecasts have a significant influence on the growth expectations of investors. By way of background, sell-side analysts compile investment research for the major brokerage firms and investment banks on behalf of their clients. This research includes both earnings forecasts and buy/hold/sell recommendations, which the analyst develops based upon a thorough analysis of the company's past performance and future prospects, along with an element of informed judgment. Sell-side analysts typically possess expert knowledge of the industry they cover, and are typically well-

[1] John Burr Williams, *The Theory of Investment Value* (Cambridge, MA, Harvard University Press, 1938) at 58.

versed in key matters affecting the company being evaluated, including recent regulatory decisions, cost and profitability trends, and infrastructure investment requirements. Substantial academic research has demonstrated that the earnings forecasts of equity analysts heavily influence the long-term growth expectations, and therefore investment decisions, of equity investors. For example, In "Using Analysts' Growth Forecasts to Estimate Shareholder Required Rates of Return," Harris concludes:

> …a growing body of knowledge shows that analysts' earnings forecasts are indeed reflected in stock prices…..Notions of shareholder required rates of return and risk premia are based in theory on investors' expectations about the future. Research has demonstrated the usefulness of financial analysts' forecasts for such expectations[2].

Similarly, in "Investor Growth Expectations: Analysts vs. History," Vander Weide and Carleton concluded:

> [First] we found overwhelming evidence that the consensus analysts' forecast of future growth is superior to historically oriented growth measures in predicting the firm's stock price. …Our results also are consistent with the hypothesis that investors use analysts' forecasts, rather than historically oriented growth calculations, in making stock buy-and-sell decisions[3].

In *Modern Regulatory Finance*, Morin sums up the academic literature on this topic very effectively where he states:

> Because of the dominance of institutional investors and their influence on individual investors, analysts' forecasts of long-run growth rates provide a sound basis for estimating required returns. Financial

[2] Robert S. Harris, "Using Analysts' Growth Forecasts to Estimate Shareholder Required Rates of Return," *Financial Management*, (Spring 1986), at 59, 66.

[3] James H. Vander Weide and William T. Carleton, "Investor Growth Expectations: Analysts vs. History," *The Journal of Portfolio Management* (Spring 1988), at 4.

> analysts exert a strong influence on the expectations of many investors who do not possess the resources to make their own forecasts, that is, they are the cause of g.[4]

Clearly then, a substantial amount of academic research supports the use of analyst earnings forecasts as an appropriate proxy for the expected growth rate component of the DCF constant growth model. For these reasons, I have given considerable weight to the 5-year consensus earnings estimates available from S&P Global and Zacks, along with Value Line's EPS growth forecasts, in deriving my estimates of long-term investor growth expectations.

5. Growth Component – Market-Based Evidence
The Influence of Analyst Estimates on Investor Growth Expectations

Analyst earnings forecasts are widely available through a variety of sources and are frequently referenced by both institutional and individual investors and the financial press. Without question, a robust market exists for earnings estimates, which is driven by strong investor demand for such information. Considering that there is a significant monetary cost associated with producing these forecasts, investment firms would not continue to produce them if they were not valued by investors. This is further demonstrated by the ongoing success of the various information service providers who

[4] Roger A. Morin, *Modern Regulatory Finance* (PUR Books LLC, 2021), at 371.

summarize analyst earnings forecasts into "consensus estimates" for the benefit of investors.

Moreover, the availability of consensus estimates to the general public through freely-accessible websites further demonstrates the pervasive influence that analyst forecasts have on market expectations, including those of individual investors. Lastly, it is important to note that, to date, investors have not demanded earnings forecasts for periods extending beyond five years. If investors had expressed a desire for such information, the robust information services marketplace would have certainly delivered longer-term forecasts by now. This strongly suggests that investors are reasonably confident that the 5-year earnings forecasts they presently utilize already provides a reasonably reliable longer-term growth estimate.

6. Growth Component
Earnings Growth Rates Currently Projected by Equity Analysts

As noted earlier, the consensus EPS growth estimates of equity analysts for each member of the Gas LDC Group, Combination Utility Group and Non-Regulated Group are presented on page 1 of Attachment VVR-7, Attachment VVR-8 and Attachment VVR-9, respectively.

Appendix B

Appendix B

DCF Estimates - Determination of "Outlier" Results

1. General Approach in Determining the "Low-End" Threshold for Outlier Results

While applying the DCF constant-growth model to the individual proxy group companies, I found both "low-end" and "high-end" outlier results which did not pass fundamental tests of economic logic. Therefore, to ensure logical and credible analytical results, I have eliminated unreasonably high and unreasonably low DCF estimates from my analysis, as further discussed herein.

It is a well-established financial principle that when the risk profile of a given investment increases, investors will demand a commensurately higher rate of return. This classic "risk-and-return" relationship explains why investors demand a higher return for investing in common stocks versus investing in corporate debt securities. Indeed, equity investors are not only compensated for the default risk inherent in fixed-income securities, but they must also be compensated for the residual claim risk they bear. Residual claim risk arises for two primary reasons. First, since common stock is the lowest ranking or most junior capital within a firm's capital structure, common stock investors are always positioned "last in line" behind fixed income investors and preferred stockholders to recover their investment in the event of a financial distress scenario. Second, common

stock investors are also in a subordinated position relative to periodic cash distributions, since common stock dividends can only be paid after contractually-required debt service payments and preferred dividend payments have been made. Considering their junior position in the capital structure, common stock investors require additional compensation for bearing this residual claim risk, through what is known as an equity risk premium.

However, in those circumstances where the equity risk premium offered does not provide sufficient compensation for bearing the additional risks associated with common stocks, investors will seek a superior risk-return tradeoff elsewhere by either investing in the company's fixed-income securities, or in another company's common stock. Therefore, consistent with the risk-and-return investment principle and fundamental tests of economic logic, DCF estimates which are lower than, or only marginally higher than, yields available on corporate debt securities have been eliminated from my analysis. This is because investors cannot reasonably be expected to invest in common stocks if they are unable to earn a minimally sufficient equity risk premium as compensation for the additional risks they bear, vis-à-vis fixed income securities. Under these circumstances, investors would clearly show a preference for either holding the company's fixed-income securities or another company's stock, making it difficult for the company to attract new equity capital.

2. Regulatory Precedents Establishing the Minimum Equity Risk Premium for Setting the "Low-End" Outlier Threshold

In recent years, the FERC has compared DCF estimates to yields available on long-term corporate bonds and has excluded proxy group companies whose DCF estimates did not exceed a company's bond yield by a sufficient margin. In *Pioneer Transmission* (2009), the FERC ruled that low-end ROEs falling within about 100 basis points of the cost of debt should be excluded from cost of equity estimates. Specifically, in its Pioneer order, the FERC stated:

> …..the Commission will exclude from the proxy group companies whose low-end ROE is within about 100 basis points above the cost of debt, taking into account the extent to which the excluded low-end ROE's are outliers from the low-end ROEs of other proxy group companies[1].

Previously, in Opinion 445, the Commission had determined that:

> …..investors generally cannot be expected to purchase stock if debt, which has less risk than stock, yields essentially the same return[2].

Furthermore, in *Southern California Edison*, the FERC reaffirmed its previous decisions concerning the treatment of low-end outliers, by stating:

> We find that, consistent with *Pioneer*, it is reasonable to exclude any company whose low-end ROE fails to exceed the average bond yield by about 100 basis points or more[3].

Most recently, in *Opinion No. 569*, the FERC revised the methodology it employs in the determination of both low-end and high-end outlier estimates of the cost of equity under the DCF method. The FERC's revised low-end methodology no longer references a

[1] *Pioneer Transmission, LLC*, 126 FERC ¶ 61,281 at P 94 (March 27, 2009).
[2] *Southern California Edison Co*., 92 FERC ¶ 61,266 (2000) (Opinion No. 445).
[3] *Southern California Edison Co*., 131 FERC ¶ 61020 at P 55 (April 15, 2010).

generic 100 basis point add-on to the cost of corporate debt, but instead now recognizes the dynamic nature of the equity risk premium, which is dependent upon ever-changing investor risk sentiments. The FERC will now reference Baa-rated corporate bond yields as the corporate bond component of the low-end outlier equation, but will now determine the minimally-required equity risk premium above the corporate bond yield by applying a 20 percent weighting factor to the market risk premium determined under the FERC's CAPM analysis. The FERC explained the rationale for these changes as follows:

> We will adjust the low-end outlier test to include a risk premium instead of the generic 100 basis points proposed in the Briefing Order, as discussed below. In particular, we will adopt a revised low-end outlier test that eliminates proxy group ROE results that are less than the yields of generic corporate Baa bonds plus 20 percent of the CAPM risk premium.
> ….
> We find that 20 percent of the risk premium from the CAPM analysis described above is a reasonable risk premium to apply to the low-end outlier test. Because the risk premium that investors demand changes over time, it is imprecise to simply add 100 basis points to the bond yield. The methodology that we adopting in this order captures such changes because the risk premium from the CAPM analysis reflects investors' required risk premium under the prevailing market conditions[4].

In a subsequent Order[5], the FERC reaffirmed its approach of referencing 20 percent of the CAPM risk premium when conducting its low-end outlier evaluations.

[4] *Association of Businesses Advocating Tariff Equity, et al., v. Midcontinent Independent System Operator, Inc., et al.*, 169 FERC ¶ 61,129, Opinion No. 569, at P 387 and P 388 (November 21, 2019).

[5] *Association of Businesses Advocating Tariff Equity, et al., v. Midcontinent Independent System Operator, Inc., et al.*, 171 FERC ¶ 61,154, Opinion No. 569-A, at P 161-162 (May 21, 2020).

In my judgment, the FERC's revised low-end outlier methodology for DCF estimates is an improvement over its previous approach, as it now better captures the dynamic nature of the market risk premium, thus enabling the cost of capital analyst to appropriately apply fundamental tests of economic logic to his/her preliminary DCF results.

3. Applying the FERC's Revised Approach in Determining the "Low-End" Outlier Threshold

As further outlined within page 6 of Attachment VVR-7, after applying the FERC's revised low-end outlier methodology as outlined above, I have determined that a reasonable low-end outlier threshold to apply to my preliminary DCF results is 7.00 percent. I have therefore eliminated outlier estimates falling below this minimum threshold level. Consistent with the risk-and-return investment principle, investors cannot reasonably be expected to accept equity returns below this threshold, since on a risk-adjusted basis, fixed-income securities would likely offer investors a superior investment alternative. The results of the low-end outlier screens for my DCF analyses can be found on pages 1 and 2 of Attachment VVR-7, Attachment VVR-8, and Attachment VVR-9, respectively.

4. Regulatory Precedents for Determining the "High-End" Threshold for Outlier Results

In *Opinion No. 569*, the FERC also adopted a revised high-end outlier test, whereby companies having DCF estimates in excess of 150 percent of the median value of the initial

proxy group results would be excluded from the final group. In a subsequent Order[6], the FERC elected to modify this approach by instead referencing 200 percent of the median value of the initial proxy group results, and the FERC subsequently reaffirmed this decision in yet another Order[7]. I have taken a similar approach in identifying high-end outlier results in my DCF analyses, but have eliminated individual high-end estimates, rather than fully eliminating the company from the proxy group. In my judgment, this approach is appropriate in view of the relatively small number of regulated utility holding companies to choose from in forming a utility proxy group, which is largely attributable to recent merger and acquisition activity in the utility industry.

To further screen my DCF results for high-end outlier estimates, I have also considered the FERC's previous high-end outlier methodology in my DCF analyses. Specifically, in *ISO New England*,[8] the FERC determined that proxy group companies with DCF estimates in excess of 17.7 percent should be excluded from DCF analyses. Accordingly, as a further check on the high-end outlier threshold applied within my DCF analyses, I have also given some consideration to the 17.7 percent high-end threshold established in the *ISO New England* case. The results of the high-end outlier screens for

[6] *Association of Businesses Advocating Tariff Equity, et al., v. Midcontinent Independent System Operator, Inc., et al.*, 171 FERC ¶ 61,154, Opinion No. 569-A, at P 154 (May 21, 2020).

[7] *Association of Businesses Advocating Tariff Equity, et al., v. Midcontinent Independent System Operator, Inc., et al.*, 173 FERC ¶ 61,159, Opinion No. 569-B, at P 140 (November 19, 2020).

[8] *ISO New England, Inc. et al.*, 109 FERC ¶ 61,147 at P 205 (November 3, 2004).

my DCF analyses can be found on pages 1 and 2 of Attachment VVR-7, Attachment VVR-8, and Attachment VVR-9, respectively.

Appendix C

Appendix C

Flotation Costs

1. Adjusting the "Bare Bones" Cost of Equity for Flotation Costs

When common equity is employed to finance a utility's rate base, it is either derived from new stock sales or from the retention of undistributed earnings. In cases where a utility or its parent company "floats" a new equity issuance, significant issuance or flotation costs may be incurred, including underwriting discounts, legal fees, accounting fees and printing costs. After subtracting these out-of-pocket costs from the transaction's gross proceeds, the company is left with net proceeds which are materially lower than the amount invested by the company's equity investors. Considering that only net proceeds can be invested into a company's rate base, the amount invested by equity investors which funds flotation related costs will never earn a fair return for those investors unless an appropriate adjustment is made to the cost of equity. As such, if a flotation cost adjustment is not applied to the "bare-bones" cost of equity determined by the various market-based analytical models, the company's equity investors will not earn a fair return on their entire investment, thereby understating the company's legitimate revenue requirement. This is contrary to established regulatory practice for debt issuance costs, which are typically capitalized at the time of issuance and amortized over the life of the

outstanding debt, therefore being fully recoverable through the cost of service ratemaking process.

2. Flotation Costs – Multiple of Cost of Equity Approach

Numerous adjustment methods have been proposed to incorporate equity issuance costs into rate proceedings, several of which have been accepted by state regulatory commissions, including the DCF formula approach, multiple of cost of equity approach, basis point approach, and the actual costs approach. For purposes of this proceeding, I have relied upon the "multiple of cost of equity" approach in determining the appropriate flotation cost adjustment for each of the three proxy groups.

In contrast to debt capital, equity capital is considered to have an infinite life, and it would therefore be inappropriate to amortize a company's flotation costs over a finite number of years. As such, rather than seeking a "return of" its flotation costs over some arbitrarily selected amortization period, it is more appropriate for a utility to seek a "return on" its flotation costs, as these costs constitute a permanent equity contribution by investors. Columbia's ultimate parent company, NiSource Inc., has completed a number of equity offerings over the past 25 years which have benefitted NiSource's utility subsidiaries. Specifically, NiSource completed a $734.9 million equity offering during November, 2002 with an underwriting discount of 3.00 percent; a $348.0 million equity offering during September, 2010 with an underwriting discount of 3.25 percent; and a $606.0 million

private placement of common equity during May 2018, with associated placement fees of approximately 1.00 percent.

In addition, on April 19, 2021, NiSource completed the sale of 8.625 million Series A Equity Units, initially consisting of Series A Corporate Units, each with a stated amount of $100. The equity offering generated net proceeds of $835.5 million, after underwriting and issuance expenses. The underwriting and issuance expenses associated with the transaction were approximately $27.0 million, which constitutes approximately 3.00 percent of the gross proceeds from the transaction.

Furthermore, during the years 2017-2025, NiSource issued additional shares of common stock under the company's "at-the market" (or "ATM") equity issuance program, which resulted in $2.2 billion of cumulative net proceeds during the 2017-2025 period.[1] To date, the distribution fees payable to the equity distribution agents facilitating these "at-the-market" transactions have approximated 0.80 percent to 1.00 percent of the notional value of these transactions. Additional supporting details on NiSource's ATM and block equity transactions can be found within NiSource's SEC filings, including its 10-K, 10-Q and Prospectus Supplement filings.

After considering both NiSource's past and future anticipated equity issuances as discussed above, I have concluded that a reasonable overall flotation cost value to

[1] Notably, NiSource did not issue any additional common equity shares under its ATM program during calendar-year 2023.

reference for purposes of the instant proceeding should reflect a composite of the equity underwriting and placement fees paid by NiSource over the past twenty-plus years, and have therefore referenced a composite value of 1.50 percent.

Considering that the contributed capital component of Columbia's common equity account has recently been in the range of 24 percent of the Company's total common equity balance, it is appropriate to apply a flotation cost adjustment to Columbia's cost of equity that is based on this 24 percent weighting, since the remaining 76 percent weighting allocated to undistributed retained earnings would not be subject to underwriting costs. Accordingly, in deriving my recommended flotation cost adjustment, I have applied a 24 percent weighting to the 1.50 percent composite flotation cost value previously discussed, which yields a flotation cost factor of 0.36 percent (1.50% x 24% = 0.36%). To properly apply this level of flotation costs to Columbia's cost of equity under the "multiple of cost of equity" approach, the 0.36 percent flotation cost factor must be added to 100 percent of Columbia's pre-adjusted cost of equity, which is derived in mathematical terms as follows: (1+.0036=1.0036%). Therefore, based upon the above approach, I have applied a 1.0036 percent multiple to the *pre-adjusted* indicated cost of equity for each of the proxy groups.

Attachment VVR-1

Vincent V. Rea, CRRA
Professional Qualifications and Expert Testimony Listing

Testimony and Regulatory Litigation Support

Mr. Rea has provided expert testimony in utility regulatory proceedings before state commissions and the Federal Energy Regulatory Commission in connection with rate cases, financing applications, and various other financial related matters. His testimony has focused on a number of topics, including the cost of equity (ROE), overall cost of capital and fair rate of return, appropriate ratemaking capital structure, embedded cost of debt, rating agency matters, utility recapitalizations, and various other financial-related matters. Mr. Rea has collaborated with utility company regulatory staff and outside counsel in the development of litigation strategies supporting rate proceedings, including testimony development, responding to discovery requests from intervenors and commission staff, appearing at evidentiary hearings, and in the preparation of legal briefs. Mr. Rea currently serves as Managing Director, Regulatory Finance Associates, LLC, and independent financial and regulatory consulting firm serving the utility industry. He previously held the positions of Director, Regulatory Finance and Economics for NiSource Inc., and Assistant Treasurer and Director of Corporate Finance for NiSource Inc. A detailed listing of the docketed proceedings where testimony and/or subject matter support has been provided by Mr. Rea can be found in Addendum A.

Capital Markets Experience

Mr. Rea acquired broad-based capital markets experience supporting the utility industry while serving in the capacity as Financial Officer for NiSource Inc., NiSource Finance Corp., and each of NiSource's six utility subsidiaries. Mr. Rea's capital markets experience in the utility industry is a distinguishing factor that uniquely qualifies him to opine on the cost of capital for regulated utilities. In the capacity as Assistant Treasurer, Mr. Rea led or co-led over twenty debt and equity financing transactions completed in both the public and private capital markets, with an aggregate principal value in excess of $10.0 billion. Mr. Rea also led or co-led numerous bank loan syndication, commercial paper and structured finance transactions having an aggregate value in excess of $11.0 billion. He was responsible for NiSource's enterprise-wide activities in the areas of debt liability management, including multiple tender offer transactions; interest rate risk management; derivative transactions; banking and capital market relationships; rating agency relationships; pension fund management; and oversight of the Company's treasury operations. A detailed listing of Mr. Rea's transactional experience in the capital markets supporting the utility industry is provided in Addendum B.

Professional Background

Managing Director, Regulatory Finance Associates, LLC (2020-present)

Director, Regulatory Finance and Economics, NiSource Inc. (2015-2020)

Assistant Treasurer and Corporate Officer, NiSource Inc. (2009-2015)

Assistant Treasurer, NiSource Finance Corp. and NiSource utility subsidiaries (2001-2015)

Director, Corporate Finance, NiSource Inc. (2001-2009)

Vincent V. Rea, CRRA
Professional Qualifications and Testimony Listing

Educational Background

M.B.A. in Finance, Indiana University, Bloomington, Indiana

B.A. with Honors in Business and Accounting, Lake Forest College, Lake Forest, Illinois

Certifications

Certified Rate of Return Analyst (CRRA), Society of Utility and Regulatory Financial Analysts

Certified Public Accountant (CPA), State of Illinois

Series 65 Uniform Investment Adviser Law Examination

Seminars/Conferences

- Society of Utility and Regulatory Financial Analysts Financial Forum (52nd Annual, 2021)
- Society of Utility and Regulatory Financial Analysts Financial Forum (51st Annual, 2019)
- Society of Utility and Regulatory Financial Analysts Financial Forum (50th Annual, 2018)
- Society of Utility and Regulatory Financial Analysts Financial Forum (49th Annual, 2017)
- Society of Utility and Regulatory Financial Analysts Financial Forum (48th Annual, 2016)
- Advanced Regulatory Studies Program, Institute of Public Utilities, Michigan State University (2015)
- Society of Utility and Regulatory Financial Analysts Financial Forum (47th Annual, 2015)
- American Gas Association (AGA) Financial Forum (2014)
- Society of Utility and Regulatory Financial Analysts Financial Forum (46th Annual, 2014)
- Essentials of Regulatory Finance, SNL Financial, Primary Instructor: Roger A. Morin, Ph.D. (2013)
- Society of Utility and Regulatory Financial Analysts Financial Forum (45th Annual, 2013)
- Society of Utility and Regulatory Financial Analysts Financial Forum (44th Annual, 2012)
- NARUC Utility Rate School (39th Annual Eastern), Committee on Water of NARUC (2011)
- Society of Utility and Regulatory Financial Analysts Financial Forum (43th Annual, 2011)
- Southern Gas Association (SGA) Ratemaking School (2011)
- Edison Electric Institute (EEI) Financial Conference (46th Annual, 2011)
- Edison Electric Institute (EEI) Financial Conference (45th Annual, 2010)

Vincent V. Rea, CRRA
Professional Qualifications and Testimony Listing

Memberships/Associations

Society of Utility and Regulatory Financial Analysts (SURFA).

Presentations

"Do Cost of Equity Models (e.g. DCF Model) Understate the Cost of Equity?", Society of Utility and Regulatory Financial Analysts Financial Forum (52nd Annual, 2021), Panel Presentation.

"Financial Engineering in the Utility Sector and its Impact on the Cost of Capital", Society of Utility and Regulatory Financial Analysts Financial Forum (47th Annual, 2015), Presentation and Panel Moderator.

"Ratemaking Capital Structure: Holding Company vs. Operating Company", Society of Utility and Regulatory Financial Analysts Financial Forum (45th Annual, 2013), Presentation and Panel Moderator.

Vincent V. Rea
Testimony in Utility Regulatory Proceedings

Applicant	Date	Docket/Type of Case	Subject
Testimony before the Massachusetts Department of Public Utilities (D.P.U.)			
NSTAR Electric Company d/b/a Eversource Energy	01/2022	D.P.U. 22-22 Base Rate Proceeding	Cost of Capital (ROE) Capital Structure
Bay State Gas Company, d/b/a Columbia Gas of Massachusetts	04/2018	D.P.U. 18-45 Base Rate Proceeding	Cost of Capital (ROE) Capital Structure
Bay State Gas Company, d/b/a Columbia Gas of Massachusetts	09/2015	D.P.U. 15-139 Financing Petition	Financing Authority ($95.0 million)
Bay State Gas Company, d/b/a Columbia Gas of Massachusetts	04/2015	D.P.U. 15-50 Base Rate Proceeding	Cost of Capital (ROE) Capital Structure
Bay State Gas Company, d/b/a Columbia Gas of Massachusetts	08/2013	D.P.U. 13-129 Financing Petition	Financing Authority ($50.0 million)
Bay State Gas Company, d/b/a Columbia Gas of Massachusetts	04/2013	D.P.U. 13-75 Base Rate Proceeding	Cost of Capital (ROE) Capital Structure
Bay State Gas Company, d/b/a Columbia Gas of Massachusetts	04/2012	D.P.U. 12-25 Base Rate Proceeding	Cost of Capital (ROE) Capital Structure
Bay State Gas Company, d/b/a Columbia Gas of Massachusetts	05/2011	D.P.U. 11-41 Financing Petition	Financing Authority ($100.0 million)
Bay State Gas Company	08/2004	D.T.E. 04-80 Financing Petition	Financing Authority ($120.0 million)
Bay State Gas Company	11/2002	D.T.E. 02-73 Financing Petition	Financing Authority ($50.0 million)
Bay State Gas Company	09/2001	D.T.E. 01-75 Participation in Intra-System Financing Vehicle	Participation in NiSource Money Pool System

Vincent V. Rea
Testimony in Utility Regulatory Proceedings

Applicant	Date	Docket/Type of Case	Subject
Testimony before the Connecticut Public Utilities Regulatory Authority (PURA)			
Connecticut Light and Power Co. d/b/a Eversource Energy	05/2021	Docket No. 17-12-03RE11 PURA Investigation into Dist. System Planning - New Rate Designs and Rates Review	Cost of Capital (ROE) Capital Structure
Testimony before the Indiana Utility Regulatory Commission (IURC)			
Northern Indiana Public Service Company LLC	09/2024	Cause No. 46120 Base Rate Proceeding (Electric)	Cost of Capital (ROE)
Northern Indiana Public Service Company LLC	10/2023	Cause No. 45967 Base Rate Proceeding (Gas)	Cost of Capital (ROE)
Northern Indiana Public Service Company LLC	09/2022	Cause No. 45772 Base Rate Proceeding (Electric)	Cost of Capital (ROE)
Northern Indiana Public Service Company	09/2021	Cause No. 45621 Base Rate Proceeding (Gas)	Cost of Capital (ROE)
Northern Indiana Public Service Company	09/2021	Cause No. 45330-TDSIC-1 TDSIC Proceeding (Gas)	Cost of Capital (ROE) Capital Structure
Northern Indiana Public Service Company	10/2018	Cause No. 45159 Base Rate Proceeding (Electric)	Cost of Capital (ROE) Capital Structure
Northern Indiana Public Service Company	06/2018	Cause No. 45113 Financing Petition	Financing Authority ($470.0 million)
Northern Indiana Public Service Company	09/2017	Cause No. 44988 Base Rate Proceeding (Gas)	Cost of Capital (ROE) Capital Structure
Northern Indiana Public Service Company	12/2017	Cause No. 45020 Amendment to Financing Petition	Financing Authority ($700.0 million)
Northern Indiana Public Service Company	06/2016	Cause No. 44796 Financing Petition	Financing Authority ($500.0 million)

Vincent V. Rea
Testimony in Utility Regulatory Proceedings

Applicant	Date	Docket/Type of Case	Subject
Testimony before the Indiana Utility Regulatory Commission (IURC) (continued)			
Northern Indiana Public Service Company	10/2015	Cause No. 44688 Base Rate Proceeding (Electric)	Overall Cost of Capital, Capital Structure, Credit Ratings
Northern Indiana Public Service Company	11/2010	Cause No. 43969 Base Rate Proceeding (Electric)	Financing Activities Credit Ratings Cost of Debt
Northern Indiana Public Service Co., Kokomo Gas & Fuel Co., Northern Indiana Fuel & Light Co.	09/2010	Cause No. 43941 Merger Petition and Transfer of Franchise	Benefits of Proposed Merger
Northern Indiana Public Service Company	05/2010	Cause No. 43894 Base Rate Proceeding (Gas)	Financing Activities Credit Ratings Cost of Debt
Northern Indiana Public Service Company	08/2008	Cause No. 43563 Financing Petition	Financing Authority for CCGT Generation ($120.0 million)
Northern Indiana Public Service Company	06/2008	Cause No. 43526 Base Rate Proceeding (Electric)	Financing Activities Credit Ratings Cost of Debt
Testimony before the Kentucky Public Service Commission (PSC)			
Columbia Gas of Kentucky	11/2024	Case No. 2024-00328 SMRP Rider Proceeding	SMRP Rider Impacts on the Cost of Equity
Columbia Gas of Kentucky	05/2024	Case No. 2024-00092 Base Rate Proceeding	Cost of Capital (ROE) Capital Structure
Columbia Gas of Kentucky	05/2021	Case No. 2021-00183 Base Rate Proceeding	Cost of Capital (ROE) Capital Structure
Testimony before the Maryland Public Service Commission (PSC)			
Columbia Gas of Maryland	09/2024	Case No. 9754 Base Rate Proceeding	Cost of Capital (ROE) Capital Structure
Columbia Gas of Maryland	05/2023	Case No. 9701 Base Rate Proceeding	Cost of Capital (ROE) Capital Structure
Columbia Gas of Maryland	05/2022	Case No. 9680 Base Rate Proceeding	Cost of Capital (ROE) Capital Structure
Columbia Gas of Maryland	05/2021	Case No. 9664 Base Rate Proceeding	Cost of Capital (ROE) Capital Structure

Vincent V. Rea
Testimony in Utility Regulatory Proceedings

Testimony before the Maryland Public Service Commission (PSC) (continued)			
Columbia Gas of Maryland	05/2020	Case No. 9644 Base Rate Proceeding	Cost of Capital (ROE) Capital Structure
Columbia Gas of Maryland	05/2019	Case No. 9609 Base Rate Proceeding	Cost of Capital (ROE) Capital Structure
Columbia Gas of Maryland	04/2018	Case No. 9480 Base Rate Proceeding	Cost of Capital (ROE) Capital Structure
Columbia Gas of Maryland	04/2017	Case No. 9447 Base Rate Proceeding	Cost of Capital (ROE) Capital Structure
Columbia Gas of Maryland	04/2016	Case No. 9417 Base Rate Proceeding	Cost of Capital (ROE) Capital Structure
Columbia Gas of Maryland	02/2013	Case No. 9316 Base Rate Proceeding	Cost of Capital (ROE) Capital Structure
Testimony before the New Hampshire and Maine Public Utility Commissions			
Public Service Company of New Hampshire	06/2024	Docket No. DE 24-070	Cost of Capital (ROE) Capital Structure
Northern Utilities, Inc.	03/2003	Docket No. 03-080 (NH) Case No. 2003-00222 (ME) Financing Petition	Financing Authority ($60.0 million)
Northern Utilities, Inc.	11/2002	Case No. 2002-00680 (ME) Financing Vehicle	Alternative Fuel Financing Arrangement
Northern Utilities, Inc.	09/2001	Case No. 2001-00646 (ME) Participation in Intra- System Financing Vehicle	Participation in a Funds Pooling Agreement
Testimony before the Virginia State Corporation Commission (SCC)			
Columbia Gas of Virginia	04/2024	PUR-2024-00030 Base Rate Proceeding	Cost of Capital (ROE) Capital Structure
Columbia Gas of Virginia	04/2022	PUR-2022-00036 Base Rate Proceeding	Cost of Capital (ROE) Capital Structure
Columbia Gas of Virginia	08/2018	PUR-2018-00131 Base Rate Proceeding	Cost of Capital (ROE) Capital Structure

Vincent V. Rea
Testimony in Utility Regulatory Proceedings

Columbia Gas of Virginia	04/2016	PUE-2016-00033 Base Rate Proceeding	Cost of Capital (ROE) Capital Structure
Columbia Gas of Virginia	04/2014	PUE-2014-00020 Base Rate Proceeding	Cost of Capital (ROE) Capital Structure
Testimony before the Federal Energy Regulatory Commission (FERC)			
Northern Indiana Public Service Company	03/2012	Docket No. EL12-49-000 Transmission Rate Incentives for MVP Projects	Incentive Rate Treatment - CWIP and Abandoned Plant

Vincent V. Rea
Subject Matter Support in Regulatory Proceedings
(Representative Cases)

Applicant	Date	Docket/Type of Case	Subject
Virginia State Corporation Commission			
Columbia Gas of Virginia	10/2016	PUE-2016-00129 Financing Petition	Financing Authority ($60.0 million)
Columbia Gas of Virginia	10/2014	PUE-2014-00109 Financing Petition	Financing Authority ($240.0 million)
Columbia Gas of Virginia	10/2012	PUE-2012-00126 Financing Petition	Financing Authority ($175.0 million)
Maryland Public Service Commission			
Columbia Gas of Maryland	12/2018	Case No. 9601 Financing Petition	Financing Authority ($21.0 million)
Columbia Gas of Maryland	09/2016	Case No. 9427 Financing Petition	Financing Authority ($20.0 million)
Columbia Gas of Maryland	07/2014	Case No. 9359 Financing Petition	Financing Authority ($10.0 million)

Vincent V. Rea
Subject Matter Support in Regulatory Proceedings
(Representative Cases)

Public Utilities Commission of Ohio			
Columbia Gas of Ohio	09/2015	Case No. 15-1548-GA-AIS Financing Petition	Financing Authority ($300.0 million)
Columbia Gas of Ohio	08/2014	Case No. 14-1523-GA-AIS Financing Petition	Financing Authority ($300.0 million)
Columbia Gas of Ohio	07/2012	Case No. 12-2056-GA-AIS Financing Petition	Financing Authority ($300.0 million)
Pennsylvania Public Utility Commission			
Columbia Gas of Pennsylvania	11/2017	Docket No. S-2017-2632449	Financing Authority ($160.0 million)
Columbia Gas of Pennsylvania	11/2015	Docket No. S-2015-2515414	Financing Authority ($130.0 million)
Columbia Gas of Pennsylvania	11/2013	Docket No. S-2013-2395719 Financing Petition	Financing Authority ($150.0 million)
Columbia Gas of Pennsylvania	12/2011	Docket No. S-2012-2282635 Financing Petition	Financing Authority ($185.0 million)
Kentucky Public Service Commission			
Columbia Gas of Kentucky	10/2018	Case No. 2018-00356 Financing Petition	Financing Authority ($40.0 million)
Columbia Gas of Kentucky	10/2015	Case No. 2015-00354 Financing Petition	Financing Authority ($58.0 million)
Columbia Gas of Kentucky	09/2012	Case No. 2012-00418 Financing Petition	Financing Authority ($45.0 million)
Federal Energy Regulatory Commission			
Northern Indiana Public Service Company	06/2015	Docket No. ES15-33-000 Short-Term Debt Authority Under Federal Power Act	Short-Term Debt Authority ($1.0 billion)

Vincent V. Rea
Subject Matter Support in Regulatory Proceedings

(Representative Cases)

Federal Energy Regulatory Commission			
Northern Indiana Public Service Company	05/2013	Docket No. ES13-25-000 Short-Term Debt Authority Under Federal Power Act	Short-Term Debt Authority ($1.0 billion)
Securities and Exchange Commission - PUHCA Authority			
Columbia Energy Group and Columbia Gas of Ohio, Inc.	07/2004	HCAR No. 27899 Factoring Arrangement	Capital Contribution to Factoring Subsidiary
NiSource Inc. and Subsidiaries	11/2003	HCAR No. 27789 U-1 Financing Application	U-1 Financing PUHCA of 1935
NiSource Inc. and Subsidiaries	09/2002	HCAR No. 27567 Tax Allocation Agreement	U-1 Tax Allocation Agreement
Bay State Gas Company, Northern Utilities, Inc., and Granite State Gas Transmission, Inc.	08/2002 & 06/2002	HCAR Nos. 27559/27535 Intra-System Financing Vehicle	Release of Jurisdiction to Participate in NiSource Money Pool System
NiSource Inc. and Subsidiaries	12/2001	HCAR No. 27479 Intra-System Financing	Establish Money Pool System

Vincent V. Rea
Professional Experience in the Capital Markets

Transaction Type	Date	Company/Issuer	Transaction Size
Initial Public Offering (Equity)	02/2015	Columbia Pipeline Partners, L.P.	$1.2 billion
Public Debt Offering (30-year/10-year)	06/2012	NiSource Finance Corp.	$750.0 million
Revolving Credit Facility Amendment	05/2012	NiSource Finance Corp.	$1.5 billion
Tender Offer for Senior Unsecured Notes	12/2011	NiSource Finance Corp.	$250.0 million
Public Debt Offering (30-year/10-year)	11/2011	NiSource Finance Corp.	$500.0 million
Public Debt Offering (30-year)	06/2011	NiSource Finance Corp.	$400.0 million
Commercial Paper Program Implementation	06/2011	NiSource Finance Corp.	$500.0 million
Revolving Credit Facility	03/2011	NiSource Finance Corp.	$1.5 billion
Tender Offer for Senior Unsecured Notes	12/2010	NiSource Finance Corp.	$273.0 million
Public Debt Offering (30-year)	12/2010	NiSource Finance Corp.	$250.0 million
Equity Offering (Forward Equity Offering)	09/2010	NiSource Inc.	$400.0 million
Project Financing (Private Placement)	08/2010	Millennium Pipeline Company	$725.0 million
Accounts Receivable Securitization Program	03/2010	Columbia Gas of Pennsylvania	$75.0 million
Public Debt Offering (12-year)	12/2009	NiSource Finance Corp.	$500.0 million
Accounts Receivable Securitization Program	10/2009	Columbia Gas of Ohio	$275.0 million

Vincent V. Rea
Professional Experience in the Capital Markets

Transaction Type	Date	Company/Issuer	Transaction Size
Accounts Receivable Securitization Program	10/2009	Northern Indiana Public Service Company	$200.0 million
Term Loan Facility	04/2009	NiSource Finance Corp.	$385.0 million
Tender Offer for Senior Unsecured Notes	04/2009	NiSource Finance Corp.	$251.0 million
Public Debt Offering (7-year)	03/2009	NiSource Finance Corp.	$600.0 million
Open Market Repurchases of Senior Unsecured Notes	01/2009	NiSource Finance Corp.	$100.0 million
Revolving Credit Facility	09/2008	NiSource Finance Corp.	$500.0 million
Reoffering of Tax-Exempt Pollution Control Bonds	08/2008	Jasper County, Indiana (on behalf of Northern Indiana Public Service Company)	$254.0 million
Public Debt Offering (5-year/10-year)	05/2008	NiSource Finance Corp.	$700.0 million
Construction Financing Credit Facility	08/2007	Millennium Pipeline Company	$800.0 million
Public Debt Offering (10-year)	08/2007	NiSource Finance Corp.	$800.0 million
Project Financing (Private Placement)	06/2006	Hardy Storage Project (Hardy Storage Company)	$124.0 million
Private Placement Debt Offering (multiple tranches)	11/2005	NiSource Finance Corp.	$900.0 million
Bilateral Revolving Credit Facility	11/2005	NiSource Finance Corp.	$300.0 million
Public Debt Offering (12-year/15-year)	09/2005	NiSource Finance Corp.	$1.0 billion
Revolving Credit Facility	03/2005	NiSource Finance Corp.	$1.25 billion

Vincent V. Rea
Professional Experience in the Capital Markets

Transaction Type	Date	Company/Issuer	Transaction Size
Public Debt Offering (5-year floating rate notes)	11/2004	NiSource Finance Corp.	$450.0 million
Settlement of Forward Stock Purchase Agreements and Remarketing of Debentures	11/2004	NiSource Inc. (Mandatorily-Convertible Hybrid Securities)	$144.0 million
Accounts Receivable Securitization Program	05/2004	Columbia Gas of Ohio	$300.0 million
Revolving Credit Facilities (364-day/3-year)	03/2004	NiSource Finance Corp.	$1.25 billion
Refunding of Tax-Exempt Pollution Control Bonds	12/2003	Jasper County, Indiana (on behalf of Northern Indiana Public Service Company)	$55.0 million
Accounts Receivable Securitization Program	12/2003	Northern Indiana Public Service Company	$200.0 million
Public Debt Offering (1.5-year floating/3-year)	11/2003	NiSource Finance Corp.	$500.0 million
Public Debt Offering (11-year)	07/2003	NiSource Finance Corp.	$500.0 million
Settlement of Forward Stock Purchase Agreements and Remarketing of Debentures	02/2003	NiSource Inc. (Mandatorily-Convertible Hybrid Securities)	$345.0 million
Equity Offering	11/2002	NiSource Inc.	$735.0 million
Revolving Credit Facility (364-day)	03/2002	NiSource Finance Corp.	$500.0 million
Public Debt Offering (2-year)	04/2001	NiSource Finance Corp.	$300.0 million
Post-Merger Consolidation of Bank Credit Facilities and Commercial Paper Facilities	03/2001	NiSource Inc. Columbia Energy Group NiSource Finance Corp.	$2.5 billion

Attachments VVR-2

Columbia Gas of Kentucky, Inc.

Weighted Average Cost of Capital and Fair Rate of Return
Based on 13-Month Average Capital Sturcture through December 31, 2027

Form of Capitalization	Cap. Struct. Ratios	Cost Rate	Weighted Cost Rate
Long-Term Debt	46.13%	5.04%	2.33%
Short-Term Debt	1.23%	5.00%	0.06%
Total Common Equity	52.64%	10.95%	5.76%
Total Capitalization	100.00%		8.15%

Attachments VVR-3

Columbia Gas of Kentucky, Inc.
Comparative Risk Assessment - 2021-2025 and 5-Year Averages

Business & Other Hybrid Metrics (1)	2025	2024	2023	2022	2021	5-Year Average
Relative Size Comparison - Total Capital						
Permanent Capitalization (excl. OCI)	$ 626,486	$ 597,957	$ 542,404	$ 484,359	$ 417,043	$ 533,650
Current Maturities and Short-Term Debt	-	-	23,049	57,386	36,584	$ 23,404
Total Capitalization (excl. OCI)	$ 626,486	$ 597,957	$ 565,452	$ 541,744	$ 453,627	$ 557,053

Standard Deviation and Coefficient of Variation of Return on Book Equity	2025	2024	2023	2022	2021	5-Year Average
Return on Avg. Book Equity, incl. AFUDC (2)	8.9%	5.5%	9.0%	9.9%	6.0%	7.9%

	Average	Std. Dev.	Coff. Var.
Return on Avg. Book Equity, incl. AFUDC (2)	**7.86%**	**1.76%**	**0.225**

Financial Risk/Credit Quality Metrics	2025	2024	2023	2022	2021	5-Year Average
Permanent Capitalization Ratios						
Long-Term Debt	46.3%	48.6%	46.3%	45.1%	46.1%	46.5%
Preferred Stock	-	-	-	-	-	-
Common Equity (2)	53.7%	51.4%	53.7%	54.9%	53.9%	53.5%
Total Permanent Capitalization	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Capitalization Ratios						
Total Debt (incl. CMD and STD)	46.3%	48.6%	48.5%	50.9%	50.5%	49.0%
Preferred Stock	-	-	-	-	-	-
Common Equity (2)	53.7%	51.4%	51.5%	49.1%	49.5%	51.0%
Total Capitalization	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
EBITDA Interest Coverage (3)						
EBITDA Interest Cov. (incl. AFUDC ded.)	5.46	4.17	5.43	5.51	4.96	5.11
FFO to Adjusted Total Debt (4)						
FFO to Adj. Debt (incl. AFUDC ded.)	22.9%	15.9%	20.2%	19.5%	13.8%	18.5%

(1) Columbia Gas of Kentucky, Inc. standalone risk metrics.

(2) Excludes Other Comprehensive Income (Loss) component of Stockholders' Equity.

(3) Earnings before interest, taxes, depreciation and amortization, divided by interest expense (including capitalized AFUDC interest).

(4) Funds from Operations (net income, including AFUDC, plus depreciation, amortization and deferred income taxes) divided by Adjusted Total Debt (total debt, incl. current maturities and short-term debt, plus post-retirement obligations recognized within the balance sheet).

Gas LDC Group
Comparative Risk Assessment - 2021-2025 and 5-Year Averages

Business & Hybrid Risk Metrics (1)	2025	2024	2023	2022	2021	5-Year Average
Relative Size Comparison - Total Capital						
Permanent Capitalization (excl. OCI)	11,221,851	10,020,209	9,288,000	8,213,061	7,702,641	$ 9,289,152
Current Maturities and Short-Term Debt	622,827	741,419	942,410	1,215,004	1,040,952	$ 912,522
Total Capitalization (excl. OCI)	11,844,678	10,761,628	10,230,410	9,428,066	8,743,592	$ 10,201,675

Standard Deviation and Coefficient of Variation of Return on Book Equity	**Average**	**Std. Dev.**	**Coeff. Var.**
Return on Avg. Book Equity (2)(incl. AFUDC)	**9.01%**	**0.47%**	**0.053**

Financial Risk/Credit Quality Metrics	2025	2024	2023	2022	2021	5-Year Average
Permanent Capitalization Ratios						
Long-Term Debt	50.4%	50.0%	51.3%	51.9%	53.5%	51.4%
Preferred Stock	0.5%	0.5%	0.9%	1.9%	2.0%	1.1%
Common Equity (2)	49.1%	49.5%	47.9%	46.2%	44.6%	47.5%
Total Permanent Capitalization	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Capitalization Ratios						
Total Debt (incl. CMD and STD)	54.2%	54.1%	55.9%	58.3%	59.5%	56.4%
Preferred Stock	0.4%	0.4%	0.7%	1.6%	1.8%	1.0%
Common Equity (2)	45.4%	45.5%	43.4%	40.1%	38.7%	42.6%
Total Capitalization	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
EBITDA Interest Coverage (3)						
EBITDA Interest Cov. (incl. AFUDC deduction)	5.76	5.23	5.41	6.87	7.76	6.21
FFO to Adjusted Total Debt (4)						
FFO to Adj. Debt (incl. AFUDC deduction)	16.6%	15.7%	14.2%	13.4%	13.2%	14.6%

(1) All comparative risk metrics for the Gas LDC Group represent the arithmetic average of the calculated results for each of the individual companies within the Group.

(2) Excludes the Other Comprehensive Income (Loss) component of Stockholders' Equity.

(3) Earnings before interest, taxes, depreciation and amortization, divided by interest expense.

(4) Funds from Operations (net income, plus depreciation, amortization and deferred income taxes) divided by Adjusted Total Debt (total debt, including current maturities and short-term debt, plus post-retirement obligations recognized within the balance sheet).

Source: 10-K filings of the proxy group companies.

Capital Structure Ratios - Permanent Capitalization
Gas LDC Group - 2021-2025 and 5-Year Average

	2025	2024	2023	2022	2021	5-Year Average
Atmos Energy Corp.						
Long-Term Debt	40.7%	40.2%	39.1%	38.9%	38.6%	39.5%
Preferred Stock	-	-	-	-	-	-
Common Equity (1)	59.3%	59.8%	60.9%	61.1%	61.4%	60.5%
Total Permanent Capitalization	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
New Jersey Resources Corp.						
Long-Term Debt	57.5%	56.6%	58.0%	57.7%	56.5%	57.3%
Preferred Stock	-	-	-	-	-	-
Common Equity (1)	42.5%	43.4%	42.0%	42.3%	43.5%	42.7%
Total Permanent Capitalization	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
NiSource Inc.						
Long-Term Debt	57.0%	53.0%	52.1%	54.5%	55.4%	54.4%
Preferred Stock	0.0%	0.0%	2.3%	8.9%	9.3%	4.1%
Common Equity (1)	43.0%	47.0%	45.6%	36.6%	35.3%	41.5%
Total Permanent Capitalization	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Northwest Natural Gas Co.						
Long-Term Debt	60.6%	54.7%	52.5%	51.3%	52.5%	54.3%
Preferred Stock	-	-	-	-	-	-
Common Equity (1)	39.4%	45.3%	47.5%	48.7%	47.5%	45.7%
Total Permanent Capitalization	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
ONE Gas, Inc.						
Long-Term Debt	40.6%	43.4%	43.8%	50.7%	61.0%	47.9%
Preferred Stock	-	-	-	-	-	-
Common Equity (1)	59.4%	56.6%	56.2%	49.3%	39.0%	52.1%
Total Permanent Capitalization	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Southwest Gas Holdings, Inc.						
Long-Term Debt	46.2%	48.4%	57.9%	58.7%	57.8%	53.8%
Preferred Stock	-	-	-	-	-	-
Common Equity (1)	53.8%	51.6%	42.1%	41.3%	42.2%	46.2%
Total Permanent Capitalization	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Spire, Inc.						
Long-Term Debt	50.0%	53.5%	55.3%	51.6%	52.5%	52.6%
Preferred Stock	3.6%	3.5%	3.8%	4.2%	4.3%	3.9%
Common Equity (1)	46.4%	43.0%	40.9%	44.1%	43.1%	43.5%
Total Permanent Capitalization	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Average of Gas LDC Proxy Group						
Long-Term Debt	50.4%	50.0%	51.3%	51.9%	53.5%	51.4%
Preferred Stock	0.5%	0.5%	0.9%	1.9%	2.0%	1.1%
Common Equity (1)	49.1%	49.5%	47.9%	46.2%	44.6%	47.5%
Total Permanent Capitalization	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

(1) Excludes Other Comprehensive Income (Loss) component of Stockholders' Equity.

Capital Structure Ratios - Total Capitalization
Gas LDC Group - 2021-2025 and 5-Year Average

	2025	2024	2023	2022	2021	5-Year Average
Atmos Energy Corp.						
Total Debt (incl. CM and STD)	40.7%	40.2%	39.9%	47.4%	48.3%	43.3%
Preferred Stock	-	-	-	-	-	-
Common Equity (1)	59.3%	59.8%	60.1%	52.6%	51.7%	56.7%
Total Capitalization	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
New Jersey Resources Corp.						
Total Debt (incl. CM and STD)	60.0%	60.4%	61.1%	62.1%	61.1%	60.9%
Preferred Stock	-	-	-	-	-	-
Common Equity (1)	40.0%	39.6%	38.9%	37.9%	38.9%	39.1%
Total Permanent Capitalization	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
NiSource Inc.						
Total Debt (incl. CM and STD)	58.2%	56.6%	58.1%	58.8%	57.0%	57.7%
Preferred Stock	-	-	2.0%	8.0%	9.0%	0.04
Common Equity (1)	41.8%	43.4%	39.9%	33.2%	34.0%	38.5%
Total Capitalization	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Northwest Natural Gas Co.						
Total Debt (incl. CM and STD)	63.8%	57.5%	56.3%	57.4%	60.2%	59.0%
Preferred Stock	-	-	-	-	-	-
Common Equity (1)	36.2%	42.5%	43.7%	42.6%	39.8%	41.0%
Total Capitalization	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
ONE Gas, Inc.						
Total Debt (incl. CM and STD)	49.5%	51.7%	52.4%	55.6%	63.9%	54.6%
Preferred Stock	-	-	-	-	-	-
Common Equity (1)	50.5%	48.3%	47.6%	44.4%	36.1%	45.4%
Total Capitalization	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Southwest Gas Holdings						
Total Debt (incl. CM and STD)	46.8%	52.8%	61.2%	65.9%	67.8%	58.9%
Preferred Stock	-	-	-	-	-	-
Common Equity (1)	53.2%	47.2%	38.8%	34.1%	32.2%	41.1%
Total Capitalization	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Spire, Inc.						
Total Debt (incl. CM and STD)	60.6%	59.3%	61.9%	60.7%	58.0%	60.1%
Preferred Stock	2.8%	3.1%	3.2%	3.4%	3.8%	0.03
Common Equity (1)	36.6%	37.6%	34.9%	35.9%	38.2%	36.6%
Total Capitalization	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Average of Gas LDC Proxy Group						
Total Debt (incl. CM and STD)	54.2%	54.1%	55.9%	58.3%	59.5%	56.4%
Preferred Stock	0.4%	0.4%	0.7%	1.6%	1.8%	0.01
Common Equity (1)	45.4%	45.5%	43.4%	40.1%	38.7%	42.6%
Total Capitalization	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

(1) Excludes Other Comprehensive Income (Loss) component of Stockholders' Equity.

Abbreviations: "CM" denotes Current Maturities of Debt; "STD" denotes Short-Term Debt.

Attachments VVR-4

Regulatory Mechanisms by Jurisdiction
Atmos Energy

Jurisdiction	Revenue Stabilization Mechanisms (1)	Infrastructure Replacement and Formula Rate Mechanisms
CO	-	System Safety and Integrity Rider (SSIR)
KS	Weather Normalization (WNA)	Gas System Reliability Surcharge (GSRS) and System Integrity Program (SIP)
KY	Weather Normalization (WNA)	Pipeline Replacement Program (PRP)
LA	Weather Normalization (WNA)	Rate Stabilization Clause (RSC) and Infrastructure Cost Recovery
MS	Weather Normalization (WNA)	Stable Rate Filing (SRF) and System Integrity Rider (SIR)
TN	Weather Normalization (WNA)	Annual Rate Mechanism (ARM) / Infrastructure Deferral Mechanism
TX (Mid)	Weather Normalization (WNA)	Rate Review Mechanism (RRM), Rule 8.209 System Safety and Reliability Capital Deferral Mechanism and Gas Reliability Infrastructure Program (GRIP)
TX (West)	Weather Normalization (WNA)	Rate Review Mechanism (RRM), Rule 8.209 System Safety and Reliability Capital Deferral Mechanism and Gas Reliability Infrastructure Program (GRIP)
VA	Weather Normalization (WNA)	Steps to Advance Virginia Energy (SAVE)

Regulatory Mechanisms by Jurisdiction
New Jersey Resources Corp.

Jurisdiction	Revenue Stabilization Mechanisms (1)	Infrastructure Replacement Cost Recovery Mechanisms
NJ	Revenue Decoupling (Conservation Incentive Program (CIP), including WNA)	Infrastructure Investment Program (IIP)

(1) Revenue stabilization mechanisms include the following four rate design approaches: (a) revenue decoupling mechanisms (incl. lost revenues adjustment); (b) weather normalization adjustment (WNA) clauses; (c) straight-fixed variable (SFV) or modified fixed-variable (MFV) rate design; and (d) rate stabilization tariffs.

Source of Data: Company 10-K reports and investor conference presentations.

Regulatory Mechanisms by Jurisdiction
NiSource Inc.

Jurisdiction	Revenue Stabilization Mechanisms (1)	Infrastructure Replacement Cost Recovery Mechanisms
IN	Weather Normalization Adjustment (WNA-Gas) and Fixed Customer Charge (Gas)	Transmission, Distribution and Storage System Improvement Charge (TDSIC) (Gas and Electric)
KY	Weather Normalization Adjustment (WNA) and Fixed Customer Charge	Safety Modernization and Repl. Program (SMRP)
MD	Weather Normalization Adjustment (WNA) and Revenue Normalization Adjustment (RNA)	Strategic Infrastructure Development and Enhancement (STRIDE)
OH	Straight-Fixed Variable Rate Design	Infrastructure Replacement Program (IRP), PHMSA IRP, and Capital Expenditure Program (CEP)
PA	Weather Normalization Adjustment (WNA-Pilot) and Fixed Customer Charge	Distribution and Storage System Impr. Charge (DSIC)
VA	Weather Normalization Adjustment (WNA) and Revenue Normalization Adjustment (RNA)	Steps to Advance Virginia's Energy Plan (SAVE)

Regulatory Mechanisms by Jurisdiction
Northwest Natural Gas Co.

Jurisdiction	Rate / Revenue Stabilization Mechanisms (1)	Infrastructure Replacement Cost Recovery Mechanisms
OR	Decoupling / Weather Normalization (WARM)	Forward Test Year, RNG Automatic Adjustment Clause
WA	-	Forward Test Tear (Multiyear)

(1) Rate/revenue stabilization mechanisms include the following four rate design approaches: (a) revenue decoupling mechanisms (incl. lost revenues adjustment); (b) weather normalization adjustment (WNA) clauses; (c) straight-fixed variable (SFV) or modified fixed-variable (MFV) rate design; and (d) rate stabilization tariffs.

Source of Data: Company 10-K reports and investor conference presentations.

Regulatory Mechanisms by Jurisdiction
ONE Gas, Inc.

Jurisdiction	Rate / Revenue Stabilization Mechanisms (1)	Infrastructure Replacement Cost Recovery Mechanisms
KS	Weather Normalization Adjustment (WNA)	Gas System Reliability Surcharge (GSRS)
OK	Weather Normalization Adjustment (Temperature Adjustment Clause)	Performance-Based Rate Change (PBRC) - Recovery of Capital Investment. Cost of Service Adjustment (COSA)
TX	Weather Normalization Adjustment (WNA)	Gas Reliability Infrastructure Program (GRIP)

Regulatory Mechanisms by Jurisdiction
Southwest Gas Corp.

Jurisdiction	Revenue Stabilization Mechanisms (1)	Infrastructure Replacement Cost Recovery Mechanisms
AZ	Full Decoupling (Delivery Charge Adjustment)	System Integrity Mechanism Capital Tracker and Customer Owned Yard Line (COYL) Program
CA	Full Decoupling (Fixed Cost Adjustment Mech.)	Future Test Year, Targeted Pipe Replacement Program and COYL program.
NV	Full Decoupling (General Revenues Adjust. Mech.)	Gas Infrastructure Replacement Program (GIR) and Capital Tracker Program (COYL)

Regulatory Mechanisms by Jurisdiction
Spire Inc.

Jurisdiction	Rate / Revenue Stabilization Mechanisms (1)	Infrastructure Replacement Cost Recovery Mechanisms
AL	WNA (Temperature Adjustment Rider) and Rate Stabilization & Equalization (RSE)	Forward Test Year
MO	Weather Normalization (WNA)	Infrastructure System Replacement Surcharge (ISRS); Forward Test Year (after July 2026).
MS	WNA and Rate Stabilization Adjustment (RSA)	-

(1) Rate/revenue stabilization mechanisms include the following four rate design approaches: (a) revenue decoupling mechanisms (incl. lost revenues adjustment); (b) weather normalization adjustment (WNA) clauses; (c) straight-fixed variable (SFV) or modified fixed-variable (MFV) rate design; and (d) rate stabilization tariffs.

Source of Data: Company 10-K reports and investor conference presentations.

Regulatory Mechanisms by Jurisdiction
Alliant Energy Corp.

Jurisdiction	Rate / Revenue Stabilization Mechanisms (1)	Infrastructure Replacement Cost Recovery Mechanisms
IA	-	Forward Looking Test Years
WI	-	Forward Looking Test Years, Limited-Issue Reopener

Regulatory Mechanisms by Jurisdiction
Avista Corp.

Jurisdiction	Rate / Revenue Stabilization Mechanisms (1)	Infrastructure Replacement Cost Recovery Mechanisms
ID	Revenue Decoupling (Fixed Cost Adjustment)	-
OR	Revenue Decoupling	-
WA	Revenue Decoupling / Multi-Year Rate Plan	-

Regulatory Mechanisms by Jurisdiction
CMS Energy Corp.

Jurisdiction	Rate / Revenue Stabilization Mechanisms (1)	Infrastructure Replacement Cost Recovery Mechanisms
MI	Revenue Decoupling (Gas)	Forward Looking Test Year

(1) Rate/revenue stabilization mechanisms include the following four rate design approaches: (a) revenue decoupling mechanisms (incl. lost revenues adjustment); (b) weather normalization adjustment (WNA) clauses; (c) straight-fixed variable (SFV) or modified fixed-variable (MFV) rate design; and (d) rate stabilization tariffs.

Source of Data: Company 10-K reports and investor conference presentations.

Regulatory Mechanisms by Jurisdiction
Consolidated Edison, Inc.

Jurisdiction	Rate / Revenue Stabilization Mechanisms (1)	Infrastructure Replacement Cost Recovery Mechanisms
NY	WNA and Revenue Decoupling (Gas & Electric)	Delivery Infrastructure
NJ	Revenue Decoupling - Conservation Incentive Program (CIP)	Infrastructure Investment Program (IIP)

Regulatory Mechanisms by Jurisdiction
Eversource Energy

Jurisdiction	Rate / Revenue Stabilization Mechanisms (1)	Infrastructure Replacement Cost Recovery Mechanisms
MA	Revenue Decoupling (Gas & Electric)	Gas System Enhancement Program (GSEP)(Gas)
CT	Revenue Decoupling) (Gas & Electric)	Electric System Improvements Charge (ESI) and System Resiliency Plan (Electric); Gas System Improvement (GSI) Mechanism (Gas)
NH	Lost Revenue Recovery / Decoupling	Reliability Enhancement Program

Regulatory Mechanisms by Jurisdiction
MGE Energy Inc.

Jurisdiction	Rate / Revenue Stabilization Mechanisms (1)	Infrastructure Replacement Cost Recovery Mechanisms
WI	-	Forward Test Year

(1) Rate/revenue stabilization mechanisms include the following four rate design approaches: (a) revenue decoupling mechanisms (incl. lost revenues adjustment); (b) weather normalization adjustment (WNA) clauses; (c) straight-fixed variable (SFV) or modified fixed-variable (MFV) rate design; and (d) rate stabilization tariffs.

Source of Data: Company 10-K reports and investor conference presentations.

Regulatory Mechanisms by Jurisdiction
Sempra Energy

Jurisdiction	Rate / Revenue Stabilization Mechanisms (1)	Infrastructure Replacement Cost Recovery Mechanisms
CA	Full Decoupling (Gas and Electric)	-
TX	-	Capital Tracker Interim Rate Adjustments

Regulatory Mechanisms by Jurisdiction
WEC Energy Group

Jurisdiction	Rate / Revenue Stabilization Mechanisms (1)	Infrastructure Replacement Cost Recovery Mechanisms
IL	Full Revenue Decoupling (Gas)	Forward Test Year
MI	-	Gas Pipeline Replacement Rider, Forward Test Year
MN	Revenue Decoupling (Gas)	Gas Utility Infrastructure Cost Rider Surcharge, Forward Test Year
WI	-	Forward Test Years (Gas & Electric)

(1) Rate/revenue stabilization mechanisms include the following four rate design approaches: (a) revenue decoupling mechanisms (incl. lost revenues adjustment); (b) weather normalization adjustment (WNA) clauses; (c) straight-fixed variable (SFV) or modified fixed-variable (MFV) rate design; and (d) rate stabilization tariffs.

Source of Data: Company 10-K reports and investor conference presentations.

Attachments VVR-5

Columbia Gas of Kentucky, Inc.

Ratesetting Capital Structure and Related Ratios
Actual at February 28, 2026 and Projected at August 31, 2026 and December 31, 2027

Form of Capitalization	Actual at February 28, 2026 Amount Outstanding	Actual at February 28, 2026 Capital Structure Ratios	Projected at August 31, 2026 Amount Outstanding	Projected at August 31, 2026 Capital Structure Ratios	Projected at December 31, 2027 Amount Outstanding	Projected at December 31, 2027 Capital Structure Ratios	Thirteen Month Average December 31, 2027 Amount Outstanding	Thirteen Month Average December 31, 2027 Capital Structure Ratios
Long-Term Debt	$ 278,000,000	44.02%	$ 288,000,000	44.46%	$ 343,000,000	46.18%	$ 333,461,538	46.13%
Current Maturities - LT Debt	-	-	-	-	-	-	-	-
Total Long-Term Debt	$ 278,000,000	44.02%	$ 288,000,000	44.46%	$ 343,000,000	46.18%	$ 333,461,538	46.13%
Common Equity								
Common Stock Issued	$ 23,806,200		$ 23,806,200		$ 23,806,200		$ 23,806,200	
Additional Paid-In Capital	58,018,524		58,018,524		58,018,524		58,018,524	
OCI	-		-		-		-	
Retained Earnings	271,497,255		272,637,275		309,058,554		298,636,446	
Total Common Equity	$ 353,321,979	55.94%	$ 354,461,999	54.72%	$ 390,883,278	52.63%	$ 380,461,169	52.64%
Total Permanent Capital	$ 631,321,979	99.96%	$ 642,461,999	99.17%	$ 733,883,278	98.81%	$ 713,922,707	98.77%
Short-Term Debt (1)	$ 287,984	0.05%	$ 5,360,608	0.83%	$ 8,870,145	1.19%	$ 8,870,145	1.23%
Total Capitalization	$ 631,609,963	100.00%	$ 647,822,607	100.00%	$ 742,753,423	100.00%	$ 722,792,852	100.00%

(1) 13-month average short-term debt balance.
Source: Company provided information.

Attachments VVR-6

Columbia Gas of Kentucky, Inc.

Actual at February 28, 2026 and Projected at August 31, 2026 and December 31, 2027

Debt Instrument	Maturity Date	Interest Rate	Principal Value	Annual Interest Expense
6.0200% Notes, due December 16, 2030	12/16/2030	6.0200%	10,000,000	602,000
5.7700% Notes, due January 7, 2043	1/7/2043	5.7700%	20,000,000	1,154,000
6.2000% Notes, due December 23, 2043	12/23/2043	6.2000%	20,000,000	1,240,000
4.4300% Notes, due December 16, 2044	12/16/2044	4.4300%	5,000,000	221,500
3.8425% Notes, due September 30, 2046	9/30/2046	3.8425%	31,000,000	1,191,175
4.6436% Notes, due December 31, 2048	12/31/2048	4.6436%	13,000,000	603,668
3.7485% Notes, due December 31, 2049	12/31/2049	3.7485%	15,000,000	562,275
3.1742% Notes, due June 30, 2050	6/30/2050	3.1742%	12,000,000	380,904
3.2720% Notes, due June 30, 2051	6/30/2051	3.2720%	22,000,000	719,840
3.2777% Notes, due September 30, 2051	9/30/2051	3.2777%	22,000,000	721,094
3.2671% Notes, due December 31, 2051	12/31/2051	3.2671%	10,000,000	326,710
4.1243% Notes, due March 31, 2052	3/31/2052	4.1243%	8,000,000	329,944
5.0808% Notes, due June 30, 2052	6/30/2052	5.0808%	18,000,000	914,544
6.2618% Notes, due September 29, 2053	9/29/2053	6.2618%	33,000,000	2,066,394
5.9124% Notes, due June 28, 2054	6/28/2054	5.9124%	5,000,000	295,620
5.3762% Notes, due September 30, 2054	9/30/2054	5.3762%	24,000,000	1,290,288
5.9187% Notes, due December 31, 2054	12/31/2054	5.9187%	10,000,000	591,870
Long-Term Debt at February 28, 2026			$ 278,000,000	$ 13,211,826
		Embedded Cost of Long-Term Debt		4.75%
6.5000% Notes, due June 30, 2056	6/30/2056	6.5000%	10,000,000	650,000
Long-Term Debt at August 31, 2026			$ 288,000,000	$ 13,861,826
		Embedded Cost of Long-Term Debt		4.81%
6.5000% Notes, due September 30, 2056	9/30/2056	6.5000%	24,000,000	1,560,000
6.5000% Notes, due March 31, 2057	3/31/2057	6.5000%	31,000,000	2,015,000
Long-Term Debt at December 31, 2027			$ 343,000,000	$ 17,436,826
		Embedded Cost of Long-Term Debt		5.08%

Columbia Gas of Kentucky, Inc.
Thirteen Month Average through December 31, 2027

Debt Instrument	Maturity Date	Interest Rate	Principal Value	Annual Interest Expense
6.0200% Notes, due December 16, 2030	12/16/2030	6.0200%	10,000,000	602,000
5.7700% Notes, due January 7, 2043	1/7/2043	5.7700%	20,000,000	1,154,000
6.2000% Notes, due December 23, 2043	12/23/2043	6.2000%	20,000,000	1,240,000
4.4300% Notes, due December 16, 2044	12/16/2044	4.4300%	5,000,000	221,500
3.8425% Notes, due September 30, 2046	9/30/2046	3.8425%	31,000,000	1,191,175
4.6436% Notes, due December 31, 2048	12/31/2048	4.6436%	13,000,000	603,668
3.7485% Notes, due December 31, 2049	12/31/2049	3.7485%	15,000,000	562,275
3.1742% Notes, due June 30, 2050	6/30/2050	3.1742%	12,000,000	380,904
3.2720% Notes, due June 30, 2051	6/30/2051	3.2720%	22,000,000	719,840
3.2777% Notes, due September 30, 2051	9/30/2051	3.2777%	22,000,000	721,094
3.2671% Notes, due December 31, 2051	12/31/2051	3.2671%	10,000,000	326,710
4.1243% Notes, due March 31, 2052	3/31/2052	4.1243%	8,000,000	329,944
5.0808% Notes, due June 30, 2052	6/30/2052	5.0808%	18,000,000	914,544
6.2618% Notes, due September 29, 2053	9/29/2053	6.2618%	33,000,000	2,066,394
5.9124% Notes, due June 28, 2054	6/28/2054	5.9124%	5,000,000	295,620
5.3762% Notes, due September 30, 2054	9/30/2054	5.3762%	24,000,000	1,290,288
5.9187% Notes, due December 31, 2054	12/31/2054	5.9187%	10,000,000	591,870
6.5000% Notes, due June 30, 2056	6/30/2056	6.5000%	10,000,000	650,000
6.5000% Notes, due September 30, 2056	9/30/2056	6.5000%	24,000,000	1,560,000
6.5000% Notes, due March 31, 2057	3/31/2057	6.5000%	21,461,538	1,395,000
				-
Thirteen Month Average through December 31, 2027			$ 333,461,538	$ 16,816,826
		Embedded Cost of Long-Term Debt		5.04%

Attachments VVR-7

DCF Method
Gas LDC Group
Projected Growth Rates and Cost of Equity Estimates

Gas LDC Group	(1) Dividend Yield	(2) S&P Global EPS Growth	(3) Zacks EPS Growth	(4) Value Line EPS Growth	(5) S&P Global EPS COE	(5) Zacks EPS COE	(5) Value Line EPS COE
Atmos Energy Corp	2.4%	8.4%	7.0%	8.0%	10.8%	9.4%	10.4%
New Jersey Resources Corp.	4.1%	8.6%	n/a	5.0%	12.6%	n/a	9.1%
NiSource Inc.	2.8%	8.6%	6.0%	7.5%	11.5%	8.8%	10.3%
Northwest Natural Gas Co.	4.2%	5.5%	n/a	6.0%	9.7%	n/a	10.2%
ONE Gas, Inc.	3.4%	7.1%	6.7%	6.0%	10.5%	10.1%	9.4%
Southwest Gas Holdings, Inc.	3.0%	11.3%	9.2%	n/a	14.3%	12.2%	n/a
Spire Inc.	4.0%	8.4%	12.0%	8.5%	12.4%	16.0%	12.5%
Average Estimate (6)	3.4%	8.3%	8.2%	6.8%	11.7%	11.3%	10.3%
Median Estimate					11.5%	10.1%	10.3%
Low-End and High-End Outlier Tests							
Low-End Threshold (7.00%) (6)					7.00%	7.00%	7.00%
Median Result (excluding negative values)(6)					11.5%	10.1%	10.3%
200% of Median Result (6)					22.9%	20.2%	20.5%
High-End Threshold - 200% of Median (average)					21.2%	21.2%	21.2%

(1) See page 3 of this Attachment.
(2) S&P Global Market Intelligence (retrieved February 15, 2026).
(3) www.zacks.com (retrieved February 15, 2026).
(4) See page 5 of this Attachment.
(5) Sum of dividend yield and applicable projected growth rate.
(6) Subject to rounding differences. For cost of equity estimates, the average calculations exclude the highlighted data. DCF estimates below 7.00% were excluded from the estimated cost of equity. Also excluded were DCF results that were more than 200% of the median value of the DCF results for the entire proxy group prior to the elimination of any outlier results (with the exception of negative estimates). See page 6 of this Attachment and FERC Opinion No. 569, 169 FERC ¶, 61,129, at P. 387 (Nov. 21, 2019), FERC Opinion No. 569-A, 171 FERC ¶ 61,154, at P.154 (May 21, 2020), and FERC Opinion No. 569-B, 173 FERC ¶ 61,159, at P.140 (Nov. 19, 2020). FERC's previous high-end outlier test of 17.7% was further applied where indicated (see ISO New England Inc., 109 FERC ¶ 61,147 at P 205 (November 3, 2004).

DCF Method
Gas LDC Group
Historical EPS Growth Rates and Cost of Equity Estimates

	(1)	(2)	(3)	(4)	(5)
Gas LDC Group	Dividend Yield	5-Year Historical EPS Growth	10-Year Historical EPS Growth	Average Historical EPS Growth	Cost of Equity - Hist. EPS
Atmos Energy Corp.	2.4%	9.5%	9.0%	9.3%	11.7%
New Jersey Resources Corp.	4.1%	5.0%	5.5%	5.3%	9.3%
NiSource Inc.	2.8%	10.0%	0.5%	5.3%	8.1%
Northwest Natural Gas Co.	4.2%	22.5%	1.0%	11.8%	15.9%
ONE Gas, Inc.	3.4%	4.5%	7.0%	5.8%	9.2%
Southwest Gas Holdings, Inc.	3.0%	-31.0%	-15.0%	-23.0%	-20.0%
Spire Inc.	4.0%	6.0%	5.0%	5.5%	9.5%
Average Estimate (6)(7)	3.4%	9.6%	4.7%	7.1%	10.6%
Median Estimate (including outlier estimates)					9.3%
Average Estimate (including outlier estimates)					6.2%

Low-End and High-End Outlier Tests	
Low-End Threshold (7.00%) (6)	7.00%
Median Result (excluding negative values)(6)	9.4%
200% of Median Result (6)	18.8%
High-End Threshold - 200% of Median (average)	18.8%

(1) See page 3 of this Attachment.
(2) See page 5 of this Attachment.
(3) See page 5 of this Attachment.
(4) Average of (2) and (3) above. If either the 10-year or 5-year historical EPS growth rate is either negative or unavailable, only the positive or available EPS growth rate has been referenced.
(5) Sum of (1) and (4) above.
(6) Subject to rounding differences. For cost of equity estimates, the average calculations exclude the highlighted data. DCF estimates below 7.00% were excluded from the estimated cost of equity. Also excluded were DCF results that were more than 200% of the median value of the DCF results for the entire proxy group prior to the elimination of any outlier results (with the exception of negative estimates). See page 6 of this Attachment and FERC Opinion No. 569, 169 FERC ¶, 61,129, at P. 387 (Nov. 21, 2019), FERC Opinion No. 569-A, 171 FERC ¶ 61,154, at P.154 (May 21, 2020), and FERC Opinion No. 569-B, 173 FERC ¶ 61,159, at P.140 (Nov. 19, 2020). FERC's previous high-end outlier test of 17.7% was further applied where indicated (see ISO New England Inc., 109 FERC ¶ 61,147 at P 205 (November 3, 2004).
(7) Average calculations exclude negative values for Southwest Gas Holdings

DCF Method
Gas LDC Group
Dividend Yield Calculations

Gas LDC Group	(a) 30/60/90 Day Stock Price Avg.	(b) Next 12-Mo. Dividends	(b)/(a) Dividend Yield
Atmos Energy Corp.	$ 170.35	$ 4.12	2.4%
New Jersey Resources Corp.	$ 48.05	$ 1.95	4.1%
NiSource Inc.	$ 43.13	$ 1.22	2.8%
Northwest Natural Gas Co.	$ 47.14	$ 1.97	4.2%
ONE Gas, Inc.	$ 79.66	$ 2.73	3.4%
Southwest Gas Holdings, Inc.	$ 82.10	$ 2.48	3.0%
Spire Inc.	$ 84.63	$ 3.34	4.0%
Average	-	-	3.4%

(a) See page 4 of this Attachment; 30/60/90 day average closing stock price.

(b) Value Line Investment Survey, Summary and Index, February 20, 2026. Estimated dividends, next twelve months.

DCF Method
Gas LDC Group
30/60/90 Day Average Closing Stock Price Through February 13, 2026

Averages	Atmos Energy	New Jersey Resources	NiSource Inc.	Northwest Natural Gas	ONE Gas, Inc.	Southwest Gas Holdings, Inc.	Spire Inc.
30-Day Average	$ 169.36	$ 49.15	$ 43.58	$ 47.22	$ 79.45	$ 83.16	$ 84.43
60-Day Average	$ 169.86	$ 47.84	$ 42.84	$ 47.27	$ 79.43	$ 81.93	$ 84.30
90-Day Average	$ 171.83	$ 47.15	$ 42.97	$ 46.94	$ 80.10	$ 81.21	$ 85.14
30/60/90 Day Avg.	$ 170.35	$ 48.05	$ 43.13	$ 47.14	$ 79.66	$ 82.10	$ 84.63

Date	Atmos Energy	New Jersey Resources	NiSource Inc.	Northwest Natural Gas	ONE Gas, Inc.	Southwest Gas Holdings, Inc.	Spire Inc.
13-Feb-26	179.25	54.23	46.36	50.35	86.04	87.98	91.84
12-Feb-26	177.77	53.74	45.18	49.82	85.02	87.11	90.33
11-Feb-26	175.97	52.85	44.66	48.85	83.37	85.97	88.04
10-Feb-26	174.17	52.47	44.73	48.31	83.07	83.50	86.73
9-Feb-26	171.46	51.76	44.45	47.66	81.77	82.87	85.58
6-Feb-26	171.38	52.42	44.10	48.07	82.49	83.26	86.08
5-Feb-26	171.50	52.77	43.93	48.58	82.75	82.99	85.27
4-Feb-26	171.83	51.87	44.03	47.80	81.48	82.63	84.18
3-Feb-26	168.81	51.81	43.96	47.70	80.51	82.94	84.90
2-Feb-26	166.52	50.05	44.03	47.35	79.92	82.08	85.32
30-Jan-26	166.34	49.48	44.29	46.56	79.56	82.82	84.49
29-Jan-26	166.00	49.26	44.65	47.05	79.09	82.64	84.86
28-Jan-26	166.00	48.70	44.33	46.22	78.01	81.94	83.98
27-Jan-26	169.03	48.94	44.39	46.90	79.18	83.86	84.77
26-Jan-26	168.50	48.58	43.91	46.54	78.99	83.46	84.06
23-Jan-26	165.34	47.93	43.41	45.83	77.23	83.02	82.78
22-Jan-26	165.40	48.33	43.52	46.79	77.49	83.90	84.05
21-Jan-26	168.37	47.97	43.79	47.12	78.79	84.58	84.42
20-Jan-26	168.00	48.03	43.40	46.73	78.58	84.82	83.59
16-Jan-26	170.47	48.11	43.93	46.97	78.71	86.27	83.54
15-Jan-26	170.28	47.55	43.53	46.97	77.93	85.90	82.96
14-Jan-26	168.72	47.22	43.31	46.48	77.55	83.53	82.68
13-Jan-26	168.41	46.96	42.45	46.02	77.27	81.96	81.54
12-Jan-26	167.61	46.69	42.39	46.25	76.80	81.60	82.07
9-Jan-26	166.78	46.47	42.03	46.12	77.01	81.14	82.18
8-Jan-26	167.10	46.57	41.55	46.98	77.37	80.85	83.37
7-Jan-26	166.15	46.22	41.54	46.79	76.81	80.46	81.94
6-Jan-26	167.54	45.81	41.88	46.64	76.74	80.98	81.98
5-Jan-26	166.88	45.74	41.57	46.54	76.50	79.52	82.21
2-Jan-26	169.36	45.98	42.16	46.74	77.42	80.15	83.21
31-Dec-25	167.63	46.12	41.76	46.74	77.25	80.02	82.70
30-Dec-25	168.58	46.35	42.05	46.89	77.97	80.66	83.12
29-Dec-25	168.78	46.42	41.93	47.13	78.18	81.07	83.20
26-Dec-25	168.13	46.05	41.72	46.84	77.66	80.76	82.97
24-Dec-25	168.40	46.34	41.88	47.09	78.30	81.19	83.45
23-Dec-25	167.99	46.18	41.60	46.91	77.72	80.86	83.19
22-Dec-25	167.34	46.42	41.45	47.07	77.60	80.43	82.77
19-Dec-25	166.70	46.31	40.97	46.52	77.53	80.63	82.56
18-Dec-25	169.42	47.75	41.51	47.46	78.84	81.95	84.04
17-Dec-25	169.17	47.61	41.25	47.40	78.62	81.59	83.92
16-Dec-25	168.00	46.31	41.43	46.88	77.54	81.64	83.70
15-Dec-25	170.75	46.29	41.83	46.88	77.65	81.73	83.90
12-Dec-25	168.37	45.81	41.41	46.78	76.93	80.08	83.31
11-Dec-25	167.09	45.91	41.69	46.44	77.05	80.00	82.13
10-Dec-25	166.80	45.35	41.33	46.15	76.78	79.81	82.20
9-Dec-25	166.28	44.98	41.44	46.07	77.64	80.00	82.17
8-Dec-25	167.07	44.59	41.32	46.19	77.96	79.92	82.38
5-Dec-25	171.29	45.08	42.00	46.24	78.75	79.08	82.43
4-Dec-25	170.95	45.02	41.89	46.21	78.75	79.02	82.37
3-Dec-25	171.15	45.89	41.88	47.86	79.79	79.90	83.84
2-Dec-25	170.08	46.36	42.26	48.28	80.69	80.71	84.77
1-Dec-25	171.72	47.25	43.00	48.92	82.69	82.58	86.79
28-Nov-25	176.37	48.08	44.13	49.47	83.74	83.05	88.66
26-Nov-25	175.74	47.88	43.76	49.19	83.46	82.41	88.16
25-Nov-25	173.34	47.88	43.14	48.85	82.97	82.02	87.09
24-Nov-25	174.56	48.29	43.41	48.49	82.74	80.44	86.71
21-Nov-25	175.16	48.83	42.78	48.09	82.92	80.44	86.10
20-Nov-25	174.77	48.04	42.40	47.61	81.84	80.37	85.39
19-Nov-25	173.92	46.15	42.70	47.11	81.43	79.03	85.16
18-Nov-25	175.22	46.38	43.06	47.56	81.40	79.49	86.16
17-Nov-25	175.68	46.53	43.18	47.45	80.41	79.63	84.82
14-Nov-25	175.12	46.62	42.88	47.98	81.07	81.30	87.00
13-Nov-25	177.97	46.62	42.96	48.26	82.01	81.43	89.16
12-Nov-25	177.83	46.03	43.64	48.13	81.77	81.67	90.55
11-Nov-25	178.66	46.14	43.94	47.77	82.04	80.97	90.76
10-Nov-25	177.76	45.66	43.72	47.00	81.47	79.22	89.58
7-Nov-25	176.91	45.75	43.55	46.80	82.22	79.84	89.68
6-Nov-25	175.48	45.19	42.78	46.59	81.43	78.83	88.72
5-Nov-25	172.59	44.63	42.87	46.04	80.53	78.99	87.36
4-Nov-25	173.95	44.85	42.87	46.73	81.87	82.34	88.41
3-Nov-25	172.70	44.13	42.58	46.29	81.50	80.97	87.82
31-Oct-25	171.72	44.30	42.11	45.53	80.19	79.50	86.40
30-Oct-25	173.35	44.77	42.13	46.23	80.77	79.87	87.48
29-Oct-25	171.66	44.29	42.46	46.00	80.55	79.95	86.88
28-Oct-25	174.49	45.41	43.39	47.13	82.66	80.57	88.11
27-Oct-25	176.35	45.71	43.73	47.53	83.17	81.02	88.61
24-Oct-25	175.93	46.05	43.63	47.77	82.87	81.99	88.90
23-Oct-25	175.75	46.19	43.87	47.31	82.24	81.01	88.41
22-Oct-25	177.10	46.16	44.13	47.06	82.42	80.12	87.13
21-Oct-25	177.04	46.09	43.71	46.95	81.94	79.42	86.87
20-Oct-25	177.74	47.03	43.85	46.66	83.18	79.36	87.22
17-Oct-25	176.41	46.70	43.25	45.97	82.08	78.40	85.35
16-Oct-25	176.37	46.41	43.22	45.43	81.16	77.53	84.87
15-Oct-25	179.19	46.22	43.55	45.20	81.23	78.35	85.48
14-Oct-25	177.65	45.72	42.93	44.41	80.38	77.79	83.96
13-Oct-25	175.54	45.13	42.73	43.84	79.64	77.23	82.85
10-Oct-25	176.48	45.70	42.86	44.61	80.47	78.65	82.31
9-Oct-25	174.93	46.01	42.94	43.68	80.44	79.33	83.19
8-Oct-25	175.75	46.48	43.90	44.12	81.00	79.40	83.53
7-Oct-25	174.91	46.55	43.59	44.07	80.37	78.72	83.02

DCF Method
Gas LDC Group
Per Share Annual Growth Rates - Historical and Projected

Gas LDC Group	Past 5-Years Historical Growth Rates				Estimated '22-'24 to '28-'30 Growth Rates			
	EPS	DPS	BVPS	Average	EPS	DPS	BVPS	Average
Atmos Energy Corp.	9.5%	9.0%	10.0%	9.5%	8.0%	8.0%	6.0%	7.3%
New Jersey Resources Corp.	5.0%	7.0%	5.0%	5.7%	5.0%	6.0%	6.0%	5.7%
NiSource Inc.	10.0%	5.5%	5.0%	6.8%	7.5%	6.0%	9.5%	7.7%
Northwest Natural Gas Co.	22.5%	0.5%	4.5%	9.2%	6.0%	0.5%	2.0%	2.8%
ONE Gas, Inc.	4.5%	7.0%	5.0%	5.5%	6.0%	2.0%	1.5%	3.2%
Southwest Gas Holdings, Inc.	-31.0%	3.5%	2.5%	-8.3%	n/a	1.5%	4.5%	3.0%
Spire Inc.	6.0%	5.0%	3.0%	4.7%	8.5%	5.0%	0.5%	4.7%
Average	3.8%	5.4%	5.0%	4.7%	6.8%	4.1%	4.3%	4.9%

Gas LDC Group	Past 10-Years Historical Growth Rates			
	EPS	DPS	BVPS	Average
Atmos Energy Corp.	9.0%	8.0%	10.0%	9.0%
New Jersey Resources Corp.	5.5%	7.0%	7.0%	6.5%
NiSource Inc.	0.5%	-	-1.0%	-0.3%
Northwest Natural Gas Co.	1.0%	0.5%	2.0%	1.2%
ONE Gas, Inc.	7.0%	12.0%	3.5%	7.5%
Southwest Gas Holdings, Inc.	-15.0%	6.5%	4.5%	-1.3%
Spire Inc.	5.0%	5.5%	4.0%	4.8%
Average	1.9%	6.6%	4.3%	3.9%

Source: Value Line Investment Survey, Ratings & Reports, February 20, 2026.

Recent Average between Moody's "A" Rated and "Baa" Rated Long-Term Utility Bond Yield (1)	5.71%
Indicated Market Risk Premium per CAPM Analysis (2)	7.11%
20% Weighting Factor per FERC Opinion No. 569 (3)	20.0%
Equity Risk Premium Factor to Apply to "A"/"Baa" Rated Bond Yield (3)(4)	1.42%
Low-End Outlier Threshold (3)(5)	7.13%

Footnotes:

(1) Q4, 2025 average of "A" rated and "Baa" rated utility bond yields (Mergent Bond Record, January 2026).

(2) See Mr. Rea's CAPM analysis (Attachment VVR-10, p.1).

(3) See FERC Opinion No. 569, 169 FERC ¶ 61,129, at P. 387-389 (Nov. 21, 2019), and FERC Opinion No. 569-A, 171 FERC ¶ 61,154, at P.161-162 (May 21, 2020).

(4) Product of (2) x (3) above.

(5) Sum of (1) and (4) above. In the interest of conservatism, rounded to 7.00 percent for purposes of Mr. Rea's DCF analyses.

	Value Line Risk Indicators					Long-Term Credit Ratings				Market Cap
Gas LDC Group	Beta	Safety Rank	Financial Strength	Fin. Str. Weight	Stk Price Stability	S&P LT Rating	S&P Weight	Moody's LT Rating	Moody's Weight	Source: Value Line Billions ($)
Atmos Energy Corp.	0.80	1	A	3	100	A-	7	A2	6	$ 28.50
New Jersey Resources Corp.	0.75	2	A	3	95	A+	5	A1	5	5.20
NiSource Inc.	0.85	2	B++	4	95	BBB+	8	Baa2	9	21.30
Northwest Natural Gas Co.	0.80	2	A	3	90	A+	5	Baa1	8	2.00
ONE Gas, Inc.	0.75	2	A	3	85	A-	7	A3	7	4.90
Southwest Gas Holdings, Inc.	0.80	2	B++	4	85	BBB+	8	Baa2	9	6.00
Spire Inc.	0.75	2	B++	4	95	BBB+	8	Baa2	9	5.10
Averages	0.79	2	A	3	92	A-	7	Baa1	8	$ 10.43

Source: Value Line Investment Survey, Ratings & Reports, February 20, 2026 and Value Line Summary & Index, February 20, 2026. S&P and Moody's long-term credit ratings accessed January 18, 2026
Standard and Poor's does not issue a long-term credit rating for NJR, so Fitch's long-term credit rating was referenced instead.

S&P Credit Rating Weightings		Moody's Credit Rating Weightings		Value Line Fin. Str. Weightings	
AAA	1	Aaa	1	A++	1
AA+	2	Aa1	2	A+	2
AA	3	Aa2	3	A	3
AA-	4	Aa3	4	B++	4
A+	5	A1	5	B+	5
A	6	A2	6	B	6
A-	7	A3	7	C++	7
BBB+	8	Baa1	8	C+	8
BBB	9	Baa2	9	C	9
BBB-	10	Baa3	10		
BB+	11	Ba1	11		
BB	12	Ba2	12		
BB-	13	Ba3	13		

Attachments VVR-8

DCF Method
Combination Utility Group
Projected Growth Rates and Cost of Equity Estimates

Combination Utility Group	(1) Dividend Yield	(2) S&P Global EPS Growth	(3) Zacks EPS Growth	(4) Value Line EPS Growth	(5) S&P Global EPS COE	(5) Zacks EPS COE	(5) Value Line EPS COE
Alliant Energy Corp.	3.0%	7.7%	7.2%	6.0%	10.7%	10.2%	9.0%
Avista Corp.	4.9%	6.1%	7.1%	6.5%	11.0%	12.0%	11.4%
CMS Energy Corp.	3.0%	7.5%	7.3%	8.5%	10.6%	10.3%	11.5%
Consolidated Edison, Inc.	3.5%	6.2%	6.1%	6.0%	9.7%	9.6%	9.5%
Eversource Energy	4.6%	4.9%	4.7%	5.5%	9.5%	9.3%	10.1%
MGE Energy, Inc.	2.4%	n/a	n/a	6.5%	n/a	n/a	8.9%
Sempra Energy	3.1%	8.4%	7.3%	5.0%	11.4%	10.4%	8.1%
WEC Energy Group	3.4%	7.6%	7.4%	6.0%	11.0%	10.9%	9.4%
Average Estimate (6)	3.5%	6.9%	6.7%	6.3%	10.6%	10.4%	9.7%
Median Estimate					10.7%	10.3%	9.5%

Low-End and High-End Outlier Tests			
Low-End Threshold (7.00%) (6)	7.00%	7.00%	7.00%
Median Result (excluding negative values)(6)	10.7%	10.3%	9.5%
200% of Median Result (6)	21.5%	20.7%	18.9%
High-End Threshold - 200% of Median (average)	20.4%	20.4%	20.4%

(1) See page 3 of this Attachment.
(2) S&P Global Market Intelligence (retrieved February 15, 2026).
(3) www.zacks.com (retrieved February 15, 2026).
(4) See page 5 of this Attachment.
(5) Sum of dividend yield and applicable projected growth rate.
(6) Subject to rounding differences. For cost of equity estimates, the average calculations exclude the highlighted data. DCF estimates below 7.00% were excluded from the estimated cost of equity. Also excluded were DCF results that were more than 200% of the median value of the DCF results for the entire proxy group prior to the elimination of any outlier results (with the exception of negative estimates). See page 6 of Attachment VVR-7 and FERC Opinion No. 569, 169 FERC ¶, 61,129, at P. 387 (Nov. 21, 2019), FERC Opinion No. 569-A, 171 FERC ¶ 61,154, at P.154 (May 21, 2020), and FERC Opinion No. 569-B, 173 FERC ¶ 61,159, at P.140 (Nov. 19, 2020). FERC's previous high-end outlier test threshold of 17.7% was further applied where indicated (see ISO New England Inc., 109 FERC ¶ 61,147 at P 205 (November 3, 2004).

DCF Method
Combination Utility Group
Historical EPS Growth Rates and Cost of Equity Estimates

Combination Utility Group	(1) Dividend Yield	(2) 5-Year Historical EPS Growth	(3) 10-Year Historical EPS Growth	(4) Average Historical EPS Growth	(5) Cost of Equity - Hist. EPS
Alliant Energy Corp.	3.0%	4.5%	5.5%	5.0%	8.0%
Avista Corp.	4.9%	-1.0%	3.0%	1.0%	5.9%
CMS Energy Corp.	3.0%	6.0%	6.5%	6.3%	9.3%
Consolidated Edison, Inc.	3.5%	3.5%	3.0%	3.3%	6.8%
Eversource Energy	4.6%	5.5%	5.5%	5.5%	10.1%
MGE Energy, Inc.	2.4%	6.0%	4.5%	5.3%	7.6%
Sempra Energy	3.1%	11.5%	7.5%	9.5%	12.6%
WEC Energy Group	3.4%	7.0%	6.5%	6.8%	10.2%
Average Estimate (6)	3.5%	5.4%	5.3%	5.3%	9.6%
Median Estimate (including outlier estimates)					8.7%
Average Estimate (including outlier estimates)					8.8%

Low-End and High-End Outlier Tests	
Low-End Threshold (7.00%) (6)	7.00%
Median Result (excluding negative values)(6)	8.7%
200% of Median Result (6)	17.3%
High-End Threshold - 200% of Median (average)	17.3%

(1) See page 3 of this Attachment.
(2) See page 5 of this Attachment.
(3) See page 5 of this Attachment.
(4) Average of (2) and (3) above.
(5) Sum of (1) and (4) above.
(6) Subject to rounding differences. For cost of equity estimates, the average calculations exclude the highlighted data. DCF estimates below 7.00% were excluded from the estimated cost of equity. Also excluded were DCF results that were more than 200% of the median value of the DCF results for the entire proxy group prior to the elimination of any outlier results (with the exception of negative estimates). See page 6 of Attachment VVR-7 and FERC Opinion No. 569, 169 FERC ¶, 61,129, at P. 387 (Nov. 21, 2019), FERC Opinion No. 569-A, 171 FERC ¶ 61,154, at P.154 (May 21, 2020), and FERC Opinion No. 569-B, 173 FERC ¶ 61,159, at P.140 (Nov. 19, 2020). FERC's previous high-end outlier test of 17.7% was further applied where indicated (see ISO New England Inc., 109 FERC ¶ 61,147 at P 205 (November 3, 2004).

DCF Method
Combination Utility Group
Dividend Yield Calculation

Combination Utility Group	(a) 30/60/90 Day Avg. Stock Price	(b) Next 12-Mo. Dividends	(b)/(a) Dividend Yield
Alliant Energy Corp.	$ 66.68	$ 2.03	3.0%
Avista Corp.	$ 40.02	$ 1.96	4.9%
CMS Energy Corp.	$ 71.86	$ 2.17	3.0%
Consolidated Edison, Inc.	$ 102.36	$ 3.60	3.5%
Eversource Energy	$ 68.96	$ 3.17	4.6%
MGE Energy, Inc.	$ 80.10	$ 1.90	2.4%
Sempra Energy	$ 89.27	$ 2.72	3.1%
WEC Energy Group	$ 109.25	$ 3.74	3.4%
Average			3.5%

(a) See page 4 of this Attachment; 30/60/90 day average closing stock price.

(b) Value Line Investment Survey, Summary and Index, February 20, 2026. Estimated dividends during the next 12-months.

30-Day Average	$ 66.69	$ 40.51	$ 71.62	$ 104.50	$ 69.07	$ 79.37	$ 88.45	$ 109.39
60-Day Average	$ 66.45	$ 39.92	$ 71.59	$ 101.55	$ 68.06	$ 79.69	$ 89.15	$ 108.18
90-Day Average	$ 66.90	$ 39.63	$ 72.37	$ 101.03	$ 69.75	$ 81.24	$ 90.21	$ 110.17
30/60/90 Day Avg.	$ 66.68	$ 40.02	$ 71.86	$ 102.36	$ 68.96	$ 80.10	$ 89.27	$ 109.25

Date	Alliant Energy Corp.	Avista Corp.	CMS Energy Corp.	Consolidated Edison, Inc.	Eversource Energy	MGE Energy	Sempra Energy	WEC Energy Group
13-Feb-26	71.19	43.08	76.74	113.72	73.36	82.88	94.78	115.79
12-Feb-26	69.68	42.39	74.73	111.72	70.32	81.15	92.79	114.03
11-Feb-26	68.23	41.73	74.52	109.87	70.22	79.90	91.18	113.13
10-Feb-26	68.01	41.51	73.75	108.43	69.30	79.90	89.70	112.92
9-Feb-26	66.90	40.99	72.82	106.68	67.63	78.73	87.48	111.32
6-Feb-26	66.69	41.50	72.84	107.34	67.36	79.58	87.36	111.42
5-Feb-26	66.83	42.40	72.86	108.87	67.73	80.91	86.66	111.94
4-Feb-26	66.75	42.13	71.60	108.38	68.24	80.28	86.63	113.33
3-Feb-26	66.53	42.27	71.80	107.45	68.54	79.17	87.00	112.26
2-Feb-26	65.11	41.41	70.55	105.42	67.91	79.04	86.22	109.84
30-Jan-26	65.91	41.29	71.49	106.63	69.13	79.88	87.01	110.67
29-Jan-26	66.33	40.79	70.90	105.96	68.92	78.94	87.10	110.41
28-Jan-26	66.26	40.36	71.80	105.18	69.90	78.17	86.78	110.04
27-Jan-26	67.19	40.96	72.04	105.35	70.63	79.12	87.11	110.35
26-Jan-26	67.01	40.24	71.53	104.59	70.33	79.21	86.70	109.70
23-Jan-26	66.83	40.04	70.70	103.87	69.58	78.60	85.94	109.10
22-Jan-26	66.87	40.56	70.97	103.18	70.45	79.93	85.75	109.35
21-Jan-26	67.44	40.33	71.69	103.84	71.38	80.67	85.98	109.52
20-Jan-26	67.28	40.06	71.35	105.05	70.79	79.37	88.43	109.06
16-Jan-26	67.34	40.18	71.68	103.81	70.11	79.58	92.55	108.59
15-Jan-26	67.06	40.09	71.28	102.58	69.69	79.95	91.57	108.16
14-Jan-26	66.86	39.60	70.92	101.47	69.95	79.46	91.32	107.07
13-Jan-26	66.17	39.22	70.56	100.21	68.40	78.98	90.29	105.96
12-Jan-26	65.17	39.08	69.85	98.83	68.75	78.75	89.10	105.00
9-Jan-26	65.02	38.93	69.99	99.21	67.79	78.43	88.82	104.65
8-Jan-26	65.55	39.19	69.85	100.18	67.62	78.05	88.03	105.23
7-Jan-26	64.60	38.96	69.56	99.37	65.62	78.33	86.36	105.04
6-Jan-26	65.38	38.95	70.38	99.32	67.41	78.21	87.70	105.95
5-Jan-26	64.90	38.46	69.47	98.50	67.05	77.50	87.54	105.41
2-Jan-26	65.59	38.72	70.42	99.99	68.06	78.44	89.71	106.47
31-Dec-25	65.01	38.54	69.93	99.32	67.33	78.42	88.29	105.46
30-Dec-25	65.42	38.71	70.42	99.89	67.55	78.75	89.09	106.09
29-Dec-25	65.42	38.63	70.13	99.54	67.20	78.77	88.91	105.73
26-Dec-25	65.24	38.48	69.96	99.30	67.24	78.35	88.61	105.50
24-Dec-25	65.45	38.37	70.11	99.53	67.16	78.66	88.84	105.55
23-Dec-25	65.26	38.41	70.02	98.95	66.37	78.27	88.68	105.02
22-Dec-25	65.03	38.32	69.77	98.57	66.04	78.36	88.09	104.87
19-Dec-25	64.63	37.69	69.17	98.06	67.16	78.78	86.94	103.94
18-Dec-25	65.69	38.58	70.61	99.99	67.98	80.82	87.25	105.25
17-Dec-25	65.48	38.79	70.26	100.21	67.28	81.31	86.78	104.76
16-Dec-25	65.26	38.47	69.91	98.90	67.89	80.24	87.91	104.48
15-Dec-25	65.63	38.79	70.76	99.39	68.37	81.79	88.59	105.26
12-Dec-25	65.33	38.56	69.84	97.53	68.11	80.19	88.49	103.88
11-Dec-25	64.93	38.75	69.74	95.64	67.50	79.30	88.97	103.48
10-Dec-25	64.81	38.58	70.01	95.41	67.63	78.99	89.07	103.66
9-Dec-25	64.89	38.44	70.43	95.82	67.83	78.59	88.32	104.64
8-Dec-25	64.78	38.25	70.52	95.45	66.70	77.66	88.16	104.76
5-Dec-25	65.50	38.71	71.09	96.60	66.74	78.66	90.66	105.71
4-Dec-25	65.71	38.61	71.70	96.22	67.06	78.92	90.07	106.28
3-Dec-25	66.38	39.33	72.19	96.45	65.97	79.97	90.73	107.29
2-Dec-25	66.53	39.44	72.64	96.87	66.31	79.43	90.95	108.09
1-Dec-25	67.60	40.66	73.16	97.88	66.55	80.13	91.50	109.34
28-Nov-25	69.47	41.38	75.44	100.36	67.18	82.82	94.72	112.07
26-Nov-25	69.18	41.45	75.27	100.14	66.70	82.71	93.79	112.24
25-Nov-25	68.48	41.26	74.81	98.85	65.94	82.13	92.47	111.22
24-Nov-25	68.41	41.00	74.30	98.92	65.68	81.88	93.91	111.02
21-Nov-25	68.27	41.21	74.04	100.16	64.55	82.48	92.50	111.14
20-Nov-25	67.47	40.83	73.50	100.95	63.55	81.06	90.71	110.65
19-Nov-25	67.22	40.67	72.95	100.38	65.26	80.86	91.02	110.16
18-Nov-25	68.09	40.89	74.27	102.91	74.54	82.16	91.60	111.60
17-Nov-25	68.10	40.93	74.46	103.85	74.03	82.41	92.20	111.89
14-Nov-25	67.33	41.11	73.94	101.66	73.30	83.67	92.00	110.97
13-Nov-25	67.42	41.34	73.93	100.95	73.69	83.61	92.22	111.74
12-Nov-25	68.14	41.66	74.96	100.19	73.61	84.02	92.47	112.11
11-Nov-25	68.02	41.86	74.84	99.59	73.33	84.20	93.53	112.50
10-Nov-25	66.96	41.13	74.06	98.24	72.51	83.25	92.94	112.42
7-Nov-25	67.34	40.84	73.23	98.52	73.04	83.37	93.72	112.87
6-Nov-25	66.74	40.42	72.35	96.99	71.54	83.56	92.78	110.78
5-Nov-25	66.85	39.74	72.57	96.11	72.91	84.47	92.39	111.85
4-Nov-25	66.59	38.69	72.94	97.96	73.82	83.29	92.48	111.87
3-Nov-25	66.47	38.14	72.49	96.64	74.36	82.96	92.58	110.61
31-Oct-25	66.82	38.05	73.55	97.41	73.81	82.87	91.94	111.73
30-Oct-25	67.93	38.27	73.21	98.19	73.80	83.57	92.44	112.60
29-Oct-25	67.79	38.27	72.29	97.00	73.81	82.99	92.20	114.58
28-Oct-25	67.98	38.85	73.44	98.55	74.88	85.26	92.55	115.22
27-Oct-25	68.86	39.00	74.59	100.22	74.71	85.91	93.17	116.68
24-Oct-25	68.97	39.17	74.75	100.04	74.67	86.85	92.78	115.83
23-Oct-25	68.60	38.80	74.56	100.77	73.89	86.48	91.81	115.91
22-Oct-25	68.56	39.07	75.16	101.94	73.12	87.05	92.06	117.40
21-Oct-25	68.22	38.87	74.54	101.56	73.21	85.70	92.29	116.58
20-Oct-25	68.59	39.01	75.09	101.72	72.85	85.86	92.72	117.50
17-Oct-25	68.07	38.44	74.78	101.19	72.56	84.31	91.29	116.84
16-Oct-25	67.60	38.39	74.75	101.07	71.36	84.35	91.14	116.19
15-Oct-25	68.63	38.02	75.31	102.29	72.24	84.68	92.29	117.28
14-Oct-25	68.33	37.33	74.35	101.89	70.59	84.45	91.33	116.49
13-Oct-25	67.66	36.84	73.55	100.86	70.97	83.91	91.17	114.97
10-Oct-25	67.75	37.08	74.09	102.39	72.35	84.59	90.20	115.13
9-Oct-25	67.24	37.14	73.28	100.80	72.39	84.36	91.64	113.88
8-Oct-25	67.87	37.51	73.19	100.83	73.49	84.11	93.36	114.59
7-Oct-25	68.07	37.38	73.76	100.04	72.84	83.67	94.01	115.20
90-Day Average	66.90	39.63	72.37	101.03	69.75	81.24	90.21	110.17

Source: https://www.finance.yahoo.com (accessed February 15, 2026).

Combination Utility Group	Past 5-Years Historical Growth Rates				Estimated '22-'24 to '28-'30 Growth Rates			
	EPS	DPS	BVPS	Average	EPS	DPS	BVPS	Average
Alliant Energy Corp.	4.5%	6.0%	6.0%	5.5%	6.0%	6.0%	4.0%	5.3%
Avista Corp.	-1.0%	4.0%	3.0%	2.0%	6.5%	4.0%	2.0%	4.2%
CMS Energy Corp.	6.0%	6.5%	8.5%	7.0%	8.5%	7.5%	4.5%	6.8%
Consolidated Edison, Inc.	3.5%	2.0%	3.0%	2.8%	6.0%	5.0%	4.0%	5.0%
Eversource Energy	5.5%	5.5%	1.0%	4.0%	5.5%	5.5%	4.0%	5.0%
MGE Energy, Inc.	6.0%	5.0%	6.0%	5.7%	6.5%	7.0%	6.0%	6.5%
Sempra Energy	11.5%	6.0%	10.0%	9.2%	5.0%	6.0%	5.5%	5.5%
WEC Energy Group	7.0%	6.5%	3.5%	5.7%	6.0%	7.0%	4.0%	5.7%
Average	5.4%	5.2%	5.1%	5.2%	6.3%	6.0%	4.3%	5.5%

Combination Utility Group	Past 10-Years Historical Growth Rates			
	EPS	DPS	BVPS	Average
Alliant Energy Corp.	5.5%	6.5%	6.0%	6.0%
Avista Corp.	3.0%	4.0%	3.5%	3.5%
CMS Energy Corp.	6.5%	6.5%	7.0%	6.7%
Consolidated Edison, Inc.	3.0%	2.5%	4.0%	3.2%
Eversource Energy	5.5%	6.0%	2.5%	4.7%
MGE Energy, Inc.	4.5%	4.5%	6.0%	5.0%
Sempra Energy	7.5%	6.5%	7.0%	7.0%
WEC Energy Group	6.5%	10.0%	7.0%	7.8%
Average	5.3%	5.8%	5.4%	5.5%

Source: Value Line Investment Survey, Ratings and Reports, February 6, 2026, January 16, 2026, and December 5, 2025.

n/a = Data not published or not available.

	Value Line Risk Indicators					Long-Term Credit Ratings				Market Cap
Combination Utility Group	Beta	Safety Rank	Financial Strength	Fin. Str. Weight	Stk Price Stability	S&P LT Rating	S&P Weight	Moody's LT Rating	Moody's Weight	Billions ($) per Value Line
Alliant Energy Corp. (LNT)	0.80	1	A	3	100	BBB+	8	Baa2	9	17.6
Avista Corp.	0.70	2	B++	4	95	BBB	9	Baa2	9	3.1
CMS Energy Corp. (CMS)	0.70	2	B++	4	100	BBB+	8	Baa2	9	22.6
Consolidated Edison, Inc. (ED)	0.65	1	A+	2	100	A-	7	Baa1	8	37.8
Eversource Energy (ES)	0.85	2	A	3	85	BBB+	8	Baa2	9	26.4
MGE Energy Inc.	0.80	2	A	3	90	AA-	4	A1	5	3.0
Sempra Energy (SRE)	0.95	3	B++	4	85	BBB+	8	Baa2	9	57.1
WEC Energy Group (WEC)	0.70	1	A	3	100	A-	7	Baa1	8	36.1
Averages	0.77	2	A	3	94	A-	7	Baa1	8	25.5

Source: Value Line Investment Survey, Ratings and Reports, February 6, 2026, January 16, 2026, and December 5, 2025. Value Line Investment Survey, Summary and Index (February 20, 2026).

S&P Credit Rating Weightings		Moody's Credit Rating Weightings		Value Line Fin. Str. Weightings	
AAA	1	Aaa	1	A++	1
AA+	2	Aa1	2	A+	2
AA	3	Aa2	3	A	3
AA-	4	Aa3	4	B++	4
A+	5	A1	5	B+	5
A	6	A2	6	B	6
A-	7	A3	7	C++	7
BBB+	8	Baa1	8	C+	8
BBB	9	Baa2	9	C	9
BBB-	10	Baa3	10		
BB+	11	Ba1	11		
BB	12	Ba2	12		
BB-	13	Ba3	13		

Attachments VVR-9

DCF Method
Non-Regulated Group
Projected Growth Rates and Cost of Equity Estimates

		(1)	(2)	(3)	(4)	(5)	(5)	(5)
			Projected Growth Rates			Cost of Equity (COE)		
Non-Regulated Group	Ticker	Dividend Yield	S&P Global EPS Growth	Zacks EPS Growth	Value Line EPS Growth	S&P Global EPS COE	Zacks EPS COE	Value Line EPS COE
Altria Group, Inc.	MO	7.0%	2.7%	3.2%	6.0%	9.7%	10.2%	13.0%
Chevron Corp.	CVX	4.4%	10.5%	2.3%	0.5%	14.8%	6.6%	4.9%
Costco Wholesale Corp.	COST	0.6%	9.2%	9.4%	10.0%	9.8%	10.0%	10.6%
Home Depot, Inc.	HD	2.5%	2.9%	1.9%	5.5%	5.4%	4.3%	8.0%
McDonald's Corp.	MCD	2.4%	7.9%	7.4%	9.0%	10.3%	9.9%	11.4%
Procter & Gamble Co.	PG	2.9%	5.0%	4.3%	4.5%	7.8%	7.2%	7.4%
Republic Services, Inc.	RSG	1.1%	8.8%	8.4%	8.5%	9.9%	9.5%	9.6%
Walmart Inc.	WMT	0.8%	7.9%	8.9%	10.0%	8.7%	9.7%	10.8%
Waste Management	WM	1.7%	11.6%	11.6%	8.0%	13.3%	13.3%	9.7%
Average Estimate (6)		2.6%	7.4%	6.4%	6.9%	10.5%	10.0%	10.1%
Median Estimate (including outlier estimates)						9.8%	9.7%	9.7%
Average Estimate (including outlier estimates)						10.0%	9.0%	9.5%
Low-End and High-End Outlier Tests								
Low-End Threshold (7.00%) (7)						7.00%	7.00%	7.00%
Median Result (excluding negative values)(7)						9.8%	9.7%	9.7%
200% of Median Result (7)						19.6%	19.4%	19.4%
High-End Threshold - 200% of Median (average)						19.5%	19.5%	19.5%

(1) See page 3 of this Attachment.

(2) S&P Global Market Intelligence (retrieved February 15, 2026).

(3) www.zacks.com (retrieved February 15, 2026).

(4) Value Line Investment Survey, Ratings and Reports, February 20, 2026, February 13, 2026, January 16, 2026, January 9, 2026, and December 12, 2025.

(5) Sum of dividend yield and applicable projected growth rate.

(6) Subject to rounding differences. For cost of equity estimates, the average calculations exclude the highlighted data. DCF estimates below 7.00% were excluded from the estimated cost of equity. Also excluded were DCF results that were more than 200% of the median value of the DCF results for the entire proxy group prior to the elimination of any outlier results (with the exception of negative estimates). See page 6 of Attachment VVR-7 and FERC Opinion No. 569, 169 FERC ¶, 61,129, at P. 387 (Nov. 21, 2019), FERC Opinion No. 569-A, 171 FERC ¶ 61,154, at P.154 (May 21, 2020), and FERC Opinion No. 569-B, 173 FERC ¶ 61,159, at P.140 (Nov. 19, 2020). FERC's previous high-end outlier test of 17.7% was further applied where indicated (see ISO New England Inc., 109 FERC ¶ 61,147 at P 205 (November 3, 2004).

DCF Method
Non-Regulated Group
Historical EPS Growth Rates and Cost of Equity Estimates

Non-Regulated Group	(1) Dividend Yield	(2) 5-Year Historical EPS Growth	(3) 10-Year Historical EPS Growth	(4) Average Historical EPS Growth	(5) Cost of Equity Historical EPS Growth
Altria Group, Inc.	7.0%	5.0%	8.0%	6.5%	13.5%
Chevron Corp.	4.4%	26.5%	2.0%	14.3%	18.6%
Costco Wholesale Corp.	0.6%	15.5%	13.0%	14.3%	14.8%
Home Depot, Inc.	2.5%	11.0%	15.0%	13.0%	15.5%
McDonald's Corp.	2.4%	8.5%	8.0%	8.3%	10.7%
Procter & Gamble Co.	2.9%	7.0%	4.5%	5.8%	8.6%
Republic Services, Inc.	1.1%	14.0%	11.5%	12.8%	13.8%
Walmart Inc.	0.8%	7.5%	3.0%	5.3%	6.1%
Waste Management	1.7%	10.0%	11.0%	10.5%	12.2%
Average Estimate (6)	2.6%	11.7%	8.4%	10.1%	12.7%

Median Estimate (including outlier estimates)	13.5%
Average Estimate (including outlier estimates)	12.6%

Low-End and High-End Outlier Tests	
Low-End Threshold (7.00%) (6)	7.00%
Median Result (excluding negative values)(6)	13.5%
200% of Median Result (6)	27.0%
High-End Threshold - 200% of Median (average)	27.0%

(1) See page 3 of this Attachment.

(2) Value Line Investment Survey, Ratings and Reports, February 20, 2026, February 13, 2026, January 16, 2026, January 9, 2026, and December 12, 2025.

(3) See (2) above.

(4) Average of (2) and (3) above.

(5) Sum of (1) and (4) above, which is the sum of the dividend yield and the average historical earnings growth rate.

DCF Method
Non-Regulated Group
Dividend Yield Calculations

Non-Regulated Group	Ticker	Dividend Next 12-Months (1)	30/60/90 Day Stock Price Average	Dividend Yield
Altria Group, Inc.	MO	4.24	60.73	7.0%
Chevron Corp.	CVX	7.12	162.94	4.4%
Costco Wholesale Corp.	COST	5.20	932.75	0.6%
Home Depot, Inc.	HD	9.20	369.01	2.5%
McDonald's Corp.	MCD	7.54	311.53	2.4%
Procter & Gamble Co.	PG	4.23	148.28	2.9%
Republic Services, Inc.	RSG	2.32	215.12	1.1%
Walmart Inc.	WMT	0.94	116.45	0.8%
Waste Management	WM	3.78	220.68	1.7%
Average				2.6%

(1) Source: Value Line Investment Survey, Summary and Index, February 20, 2026

Averages	Altria Group	Chevron	Costco Wholesale	Home Depot	McDonald's Corp.	Procter & Gamble	Republic Services	Walmart Inc.	Waste Management
30-Day Average	$ 61.61	$ 170.30	$ 956.21	$ 376.07	$ 313.59	$ 149.59	$ 215.53	$ 120.95	$ 224.71
60-Day Average	$ 60.03	$ 160.29	$ 919.59	$ 362.67	$ 311.97	$ 147.30	$ 214.88	$ 116.26	$ 220.57
90-Day Average	$ 60.55	$ 158.23	$ 922.46	$ 368.30	$ 309.03	$ 147.96	$ 214.93	$ 112.13	$ 216.76
30/60/90 Day Avg.	$ 60.73	$ 162.94	$ 932.75	$ 369.01	$ 311.53	$ 148.28	$ 215.12	$ 116.45	$ 220.68

Date	Altria Group	Chevron	Costco Wholesale	Home Depot	McDonald's Corp.	Procter & Gamble	Republic Services	Walmart Inc.	Waste Management
13-Feb-26	67.25	183.74	1018.48	391.05	327.58	160.07	223.17	133.89	234.52
12-Feb-26	67.01	182.40	998.86	390.22	332.08	161.21	220.87	133.64	231.01
11-Feb-26	65.92	185.82	978.14	390.68	323.21	160.00	225.97	128.77	234.66
10-Feb-26	64.40	182.26	971.23	389.68	325.97	159.08	223.07	126.70	231.72
9-Feb-26	64.40	182.60	997.59	381.00	325.60	157.33	224.08	129.02	230.50
6-Feb-26	65.40	180.86	1001.16	385.15	327.16	159.17	219.94	131.18	226.79
5-Feb-26	65.39	179.23	989.29	382.37	323.48	158.61	218.72	126.94	226.60
4-Feb-26	65.16	181.23	978.35	387.20	323.69	156.87	218.20	128.00	226.43
3-Feb-26	64.16	178.04	977.92	381.10	319.48	155.32	213.95	127.71	225.09
2-Feb-26	62.23	174.03	968.36	378.12	318.53	153.19	215.73	124.06	223.16
30-Jan-26	61.99	176.90	940.25	374.59	315.00	151.77	215.09	119.14	222.24
29-Jan-26	59.76	171.19	952.89	371.81	315.51	149.90	214.75	117.41	223.13
28-Jan-26	63.13	169.93	960.78	375.30	312.80	147.34	217.60	116.57	231.60
27-Jan-26	63.62	169.05	970.28	380.36	314.13	148.34	217.19	116.94	231.34
26-Jan-26	62.98	167.50	977.67	386.53	312.95	149.49	219.08	117.64	230.25
23-Jan-26	61.91	166.72	983.25	383.77	309.25	150.15	217.61	117.73	229.23
22-Jan-26	61.03	166.66	976.17	381.03	306.03	149.93	215.75	117.83	229.00
21-Jan-26	61.08	166.73	982.86	384.64	305.69	146.06	214.29	119.36	226.49
20-Jan-26	61.15	165.30	964.26	375.11	302.84	147.00	210.62	118.71	221.30
16-Jan-26	61.76	166.26	963.61	380.17	307.43	144.53	210.96	119.70	221.23
15-Jan-26	61.58	166.16	956.75	379.16	308.62	144.63	210.79	119.20	219.86
14-Jan-26	61.47	167.24	950.98	375.95	308.13	146.35	210.98	120.04	218.79
13-Jan-26	60.15	163.87	941.93	379.74	309.44	144.24	209.65	120.36	216.18
12-Jan-26	58.54	162.34	943.08	374.94	306.75	143.46	210.85	117.97	218.57
9-Jan-26	57.53	162.11	924.88	374.64	307.32	141.87	212.22	114.53	220.91
8-Jan-26	55.90	159.25	915.31	359.56	308.88	141.53	211.86	113.07	217.86
7-Jan-26	54.72	155.20	882.58	349.06	304.16	138.04	209.08	112.72	215.97
6-Jan-26	55.16	156.54	889.10	349.29	302.77	139.91	210.93	114.34	219.08
5-Jan-26	56.30	163.85	875.74	344.09	299.86	140.37	212.84	112.71	219.44
2-Jan-26	57.31	155.90	854.50	345.82	303.26	141.79	210.20	112.76	218.40
31-Dec-25	57.66	152.41	862.34	344.10	305.63	143.31	211.93	111.41	219.71
30-Dec-25	57.77	152.31	865.65	346.35	308.03	144.05	214.69	111.92	222.12
29-Dec-25	57.62	150.99	867.84	347.45	308.53	144.57	214.52	112.53	222.29
26-Dec-25	57.60	150.02	873.35	349.78	310.68	144.74	213.37	111.74	221.10
24-Dec-25	58.98	150.50	871.86	347.34	313.33	144.49	213.20	111.61	221.36
23-Dec-25	58.75	150.51	854.79	344.97	310.84	143.18	213.06	110.90	220.34
22-Dec-25	58.61	149.80	850.00	346.39	316.22	142.69	212.92	112.60	219.66
19-Dec-25	58.07	147.75	855.62	345.00	315.84	144.46	213.14	114.36	216.34
18-Dec-25	58.39	147.69	857.59	354.99	319.65	145.52	213.46	114.83	218.32
17-Dec-25	59.18	149.52	862.65	356.75	318.69	147.81	214.73	115.66	219.77
16-Dec-25	59.33	146.75	860.39	352.68	314.50	145.21	214.01	115.42	218.90
15-Dec-25	59.09	149.80	860.56	356.99	318.73	145.13	215.33	116.79	218.32
12-Dec-25	58.75	149.99	884.47	359.65	316.72	142.84	213.65	116.70	215.61
11-Dec-25	58.72	150.72	884.48	357.46	309.71	140.76	211.18	115.52	212.05
10-Dec-25	58.69	151.41	874.41	351.13	310.53	139.82	207.56	113.18	209.15
9-Dec-25	58.18	148.49	888.44	345.27	310.79	139.63	209.32	115.06	209.31
8-Dec-25	58.11	148.71	887.52	349.91	309.79	138.34	211.44	113.56	210.23
5-Dec-25	57.99	150.00	894.68	354.61	311.23	143.45	216.53	115.11	213.58
4-Dec-25	58.34	152.26	895.86	351.17	308.54	145.36	215.12	114.84	214.19
3-Dec-25	58.41	151.59	922.26	357.91	307.71	146.71	215.37	114.41	216.15
2-Dec-25	58.82	150.25	922.03	354.03	300.72	145.86	212.67	112.41	214.54
1-Dec-25	59.14	152.54	911.96	357.33	303.57	147.44	214.07	111.53	215.93
28-Nov-25	59.01	151.13	913.59	356.92	311.82	148.16	217.06	110.51	217.87
26-Nov-25	58.69	149.51	908.26	355.47	312.40	148.25	217.37	109.10	217.35
25-Nov-25	58.34	148.53	894.33	351.07	310.45	148.49	217.09	107.00	216.23
24-Nov-25	57.33	149.75	886.12	336.58	304.90	146.98	215.16	104.06	211.84
21-Nov-25	58.19	149.98	899.01	343.32	309.35	150.92	219.00	105.32	216.62
20-Nov-25	58.18	150.31	893.29	332.38	304.16	148.19	218.43	107.11	216.80
19-Nov-25	58.61	151.70	890.60	334.50	302.74	146.99	217.47	100.61	215.66
18-Nov-25	58.94	153.62	895.08	336.48	304.59	146.99	213.96	101.39	211.30
17-Nov-25	58.13	154.82	912.59	358.03	304.90	145.82	209.81	102.95	207.97
14-Nov-25	58.19	157.62	922.98	362.36	307.03	147.67	209.80	102.48	209.17
13-Nov-25	57.81	155.58	925.08	368.07	307.58	147.96	206.02	102.54	204.51
12-Nov-25	58.05	153.32	914.00	371.13	306.94	148.01	205.15	103.44	203.80
11-Nov-25	58.41	156.24	913.86	374.24	306.83	148.54	207.13	103.44	203.27
10-Nov-25	57.55	155.65	915.56	370.43	299.10	145.50	204.12	102.42	200.47
7-Nov-25	58.03	155.02	922.74	371.11	299.66	146.98	205.59	102.59	201.92
6-Nov-25	57.27	152.94	923.58	369.07	298.41	146.13	204.23	101.68	199.62
5-Nov-25	57.16	152.66	935.03	373.84	305.67	145.79	206.43	101.47	200.54
4-Nov-25	57.31	153.39	940.74	383.08	299.21	147.17	207.74	102.27	200.68
3-Nov-25	56.67	154.04	928.04	378.35	296.37	148.02	205.28	101.59	196.77
31-Oct-25	56.38	157.72	911.45	379.59	298.43	150.37	208.24	101.18	199.77
30-Oct-25	57.13	153.52	920.18	379.55	302.43	149.58	209.92	102.23	200.57
29-Oct-25	61.97	155.10	912.42	378.04	302.35	148.77	210.50	102.46	197.53
28-Oct-25	63.28	154.13	924.16	385.75	306.40	151.37	217.73	103.17	204.23
27-Oct-25	63.74	155.28	929.85	385.27	310.00	151.74	221.04	104.47	213.77
24-Oct-25	64.67	155.56	932.14	386.68	305.79	152.49	223.09	106.17	214.66
23-Oct-25	64.57	156.56	942.05	385.03	306.97	152.21	223.11	106.86	216.11
22-Oct-25	64.43	155.57	944.68	388.97	310.11	152.20	223.28	107.14	216.46
21-Oct-25	63.75	153.79	937.50	390.90	307.48	151.62	220.94	106.22	214.89
20-Oct-25	64.40	154.48	936.11	388.89	307.77	151.96	220.13	107.05	215.40
17-Oct-25	65.05	153.08	936.33	391.90	308.09	151.40	219.82	107.73	215.48
16-Oct-25	64.26	151.71	925.62	387.39	305.33	149.60	218.23	106.47	213.29
15-Oct-25	64.87	152.11	954.99	388.30	305.25	147.42	221.03	109.03	213.69
14-Oct-25	65.40	152.39	946.51	387.72	304.56	149.16	224.48	107.21	218.11
13-Oct-25	64.95	151.94	935.56	379.37	300.11	147.49	223.04	102.12	217.09
10-Oct-25	66.54	148.90	930.01	375.75	297.01	149.69	225.16	101.84	219.25
9-Oct-25	65.72	151.64	942.89	377.69	293.81	150.58	221.69	101.77	217.53
8-Oct-25	65.42	153.74	914.80	383.79	294.40	150.69	225.35	102.90	219.98
7-Oct-25	66.65	154.91	914.80	386.81	296.32	152.54	222.75	103.24	217.56
90-Day Average	$ 60.55	$ 158.23	$ 922.46	$ 368.30	$ 309.03	$ 147.96	$ 214.93	$ 112.13	$ 216.76

Source: https://www.finance.yahoo.com (accessed February 15, 2026).

Non-Regulated Group	Value Line Risk Indicators (1) Beta	Safety Rank	Financial Strength	Fin. Str. Weight	Stk Price Stability	Percent % Debt/Cap.	Long-Term Credit Ratings S&P LT Rating	S&P Weight	Moody's LT Rating	Moody's Weight	Market Cap. Billions ($) Value Line
Altria Group, Inc.	0.65	1	A	3	95	100.0%	BBB+	8	A3	7	$ 96.7
Chevron Corp.	0.90	1	A++	1	80	16.0%	AA-	4	Aa2	3	$ 368.0
Costco Wholesale Corp.	0.80	1	A+	2	90	16.0%	AA	3	Aa3	4	$ 389.0
Home Depot, Inc.	0.95	1	A++	1	90	79.0%	A	6	A2	6	$ 356.0
McDonald's Corp.	0.75	1	A++	1	100	100.0%	BBB+	8	Baa1	8	$ 227.0
Procter & Gamble Co.	0.65	1	A++	1	100	31.0%	AA-	4	Aa3	4	$ 345.0
Republic Services, Inc.	0.70	1	A	3	100	51.0%	A-	7	A3	7	$ 66.8
Walmart Inc.	0.75	1	A++	1	95	30.0%	AA	3	Aa2	3	$ 898.0
Waste Management	0.70	1	A	3	100	69.0%	A-	7	A3	7	$ 89.9
Averages	0.76	1	A+	2	94	54.7%	A	6	A1	5	$ 315.2

S&P Credit Rating Weightings		Moody's Credit Rating Weightings		Value Line Fin. Str. Weightings	
AAA	1	Aaa	1	A++	1
AA+	2	Aa1	2	A+	2
AA	3	Aa2	3	A	3
AA-	4	Aa3	4	B++	4
A+	5	A1	5	B+	5
A	6	A2	6	B	6
A-	7	A3	7	C++	7
BBB+	8	Baa1	8	C+	8
BBB	9	Baa2	9	C	9
BBB-	10	Baa3	10		
BB+	11	Ba1	11		
BB	12	Ba2	12		
BB-	13	Ba3	13		

(1) Value Line Investment Survey, Ratings and Reports, January 24, 2025, January 10, 2025, January 3, 2025, December 13, 2024 and November 15, 2024.

Attachments VVR-10

CAPM Method
Gas LDC Group - Cost of Equity Estimates

Prospective Market Return	
DCF Approach - S&P 500 Index	
Dividend Yield (1)	1.25%
Growth Rate (2)	11.30%
DCF Market Return - S&P 500 (3)	12.55%
DCF Approach - Value Line 1,700 Stock Universe	
Dividend Yield (4)	2.11%
Growth Rate - (4-Year Horizon Average)(5)	8.78%
DCF Market Return - Value Line 1,700 Stock Universe) (6)	10.88%
Prospective Market Return (Average) (7)	11.72%
Prospective Risk-Free Rate of Return	
30-Year Treasury Bond Equal-Weighted Composite Yield - (December 2025 Average and 2026-2030 Average Implied Forward Rate) (8)	4.87%
Prospective Market Risk Premium (Average) (9)	6.85%
Historical Market Risk Premium (Kroll Cost of Capital Navigator)	
Historical Average Market Risk Premium (1926-2025) (10)	7.37%
Indicated Market Risk Premium (11)	7.11%
Gas LDC Group Beta Coefficient (12)	0.79
Gas LDC Group Risk Premium (13)	5.62%
Composite Risk-Free Rate of Return (Average) (8)	4.87%
Traditional CAPM Result (14)	**10.48%**
Size Premium Adjustment (15)	0.37%
Implied Cost of Equity (CAPM with Size Adjustment) (16)	**10.85%**

Empirical CAPM Model (ECAPM)

Composite Risk-Free Rate of Return (Average) (8)	4.87%
25% Weighting of Market Risk Premium (17)	1.78%
75% Weighting of Beta x Market Risk Premium (18)	4.21%
Implied Cost of Equity (ECAPM Model) (19)	**10.86%**

Footnotes:

(1) D/P = [$20.25](cash dividends for Q4, 2025) x 4 (quarters) x (1+(.5) growth rate)]/[$6,827.65) (90 trading-day average closing price through February 13, 2026. Source: https://www.spglobal.com and https://www.finance.yahoo.com.

(2) Average long-term consensus earnings growth estimates for the S&P 500 Index (11.30%) reported by Bloomberg Finance L.P.

(3) (1) + (2) above.

(4) See page 5 of this Attachment. Median estimated dividend yield for the next 12 months for all dividend paying stocks. Value Line Summary & Index; average estimated dividend yield from 13 consecutive weekly reports (November 28, 2025 - February 20, 2026).

(5) See page 5 of this Attachment. The Value Line average median price appreciation potential 3 to 5 years hence is 40.00%. The annual expected price appreciation growth rate based upon the four-year horizon is 8.78% [(1+.40)^.25) - 1].
Source: Value Line Summary & Index; average of 13 consecutive weekly reports (November 28, 2025 - February 20, 2026).

(6) (4) + (5) above.

(7) Average of (3) and (6) above. Result may reflect rounding differences.

(8) Composite rate based on the December 2025 average yield for the 30-year U.S. Treasury bond and the 30-year U.S. Treasury bond average annual implied forward rate for 2026-2030.

(9) (7) - (8) above. Result may reflect rounding differences.

(10) Historical annual average equity risk premium (1926-2025). Source: Kroll Cost of Capital Navigator (accessed February 15, 2026).

(11) Average of (9) and (10) above. May reflect rounding differences.

(12) Value Line as-reported average beta coefficient for the Gas LDC Group.

(13) (11) x (12) above.

(14) (13) + (8) above. May reflect rounding differences.

(15) Size premium (return in excess of CAPM) for Decile 4 portfolios, as reported by the Kroll Cost of Capital Navigator (accessed Feb.15, 2026).

(16) (14) + (15) above.

(17) (11) above x 25%.

(18) 75% x (11) above x (12) above.

(19) (8) + (17) + (18) above. May reflect rounding differences.

CAPM Method
Combination Utility Group - Cost of Equity Estimates

Indicated Market Risk Premium (20)	7.11%
Combination Utility Group Beta Coefficient (21)	0.77
Combination Utility Group Risk Premium (22)	5.48%
Composite Risk-Free Rate of Return (Average) (23)	4.87%
Traditional CAPM Result (24)	**10.35%**
Size Premium Adjustment (25)	0.27%
Implied Cost of Equity (CAPM with Size Adjustment) (26)	**10.62%**

Empirical CAPM Model (ECAPM)

Prospective Risk-Free Rate of Return (Average) (23)	4.87%
25% Weighting of Market Risk Premium (27)	1.78%
75% Weighting of Beta x Market Risk Premium (28)	4.11%
Implied Cost of Equity (ECAPM Model) (29)	**10.76%**

Footnotes:

(20) See pages 1-2 of this Attachment and footnotes 1-11 therein.
(21) Value Line as-reported average beta coefficient for the Combination Utility Group.
(22) (20) x (21) above.
(23) See pages 1-2 of this Attachment and footnote 8 therein.
(24) (22) + (23) above.
(25) Size premium (return in excess of CAPM) for Decile 2 portfolios, as reported by Kroll Cost of Capital Navigator (accessed February 15, 2026)..
(26) (24) + (25) above.
(27) (20) above x 25%.
(28) 75% x (21) above x (20) above.
(29) (23) + (27) + (28) above.

CAPM Method
Non-Regulated Group - Cost of Equity Estimates

Indicated Market Risk Premium (30)	7.11%
Non-Regulated Group Beta Coefficient (31)	0.76
Non-Regulated Group Risk Premium (32)	5.40%
Composite Risk-Free Rate of Return (Average) (33)	4.87%
Traditional CAPM Result (34)	**10.27%**
Size Premium Adjustment (35)	0.01%
Implied Cost of Equity (CAPM with Size Adjustment) (36)	**10.28%**

Empirical CAPM Model (ECAPM)

Prospective Risk-Free Rate of Return (Average) (37)	4.87%
25% Weighting of Market Risk Premium (38)	1.78%
75% Weighting of Beta x Market Risk Premium (39)	4.05%
Implied Cost of Equity (ECAPM Model) (40)	**10.70%**

Footnotes:

(30) See pages 1-2 of this Attachment and footnotes 1-11 therein.
(31) Value Line as-reported average beta coefficient for the Non-Regulated Group.
(32) (30) x (31) above.
(33) See pages 1-2 of this Attachment and footnote 8 therein.
(34) (32) + (33) above.
(35) Size premium (return in excess of CAPM) for Decile 1 portfolios, as reported by Kroll Cost of Capital Navigator (accessed February 15, 2026).
(36) (34) + (35) above.
(37) See pages 1-2 of this Attachment and footnote 8 therein.
(38) (30) above x 25%.
(39) 75% x (30) above x (31) above.
(40) (37) + (38) + (39) above.

CAPM Method
Value Line Investment Survey
Median Estimated Dividend Yields and Price Appreciation Potential

Value Line Report Date	Median Estimated Dividend Yields (1)	Median Price Apprec. Potential (2)
2/20/2026	2.00%	40.00%
2/13/2026	2.00%	40.00%
2/6/2026	2.00%	40.00%
1/30/2026	2.10%	35.00%
1/23/2026	2.10%	35.00%
1/16/2026	2.10%	40.00%
1/9/2026	2.10%	40.00%
1/2/2026	2.10%	40.00%
12/26/2025	2.10%	40.00%
12/19/2025	2.10%	40.00%
12/12/2025	2.20%	40.00%
12/5/2025	2.20%	45.00%
11/28/2025	2.30%	45.00%
13-Week Average	2.11%	40.00%

Annual Appreciation Return (3-year realization)	11.87%
Annual Appreciation Return (4-year realization)	8.78%
Annual Appreciation Return (5-year realization)	6.96%

Source: Value Line Investment Survey, Summary & Index. Averages derived from 13 consecutive weekly reports, from November 28, 2025 to February 20, 2026.

(1) The Value Line median of estimated dividend yields (for the next 12 months) of all dividend paying stocks under review.

(2) The Value Line estimated median price appreciation potential of all 1,700 stocks in the hypothesized economic environment, 3 to 5 years hence.

Attachments VVR-11

Risk Premium Method (RPM)
Gas LDC Group - Indicated Cost of Equity

Prospective "A" Rated Corporate Bond Yield - Composite (1)	5.85%
Yield/Credit Spread Adjustment Between "A" Rated Corporate Bond Yields and "A" Rated Public Utility Bond Yields (2)	0.06%
Prospective "A" Rated Public Utility Bond Yield (3)	5.91%
Yield/Credit Spread Adjustment Between "A" Rated Public Utility Bonds and A-/Baa1 Average Rating of the Gas Group (4)	0.10%
Prospective Bond Yield for Gas LDC Group (5)	6.01%
Equity Risk Premium	
- Total Market Index Approach (6)	4.84%
- Public Utility Index Approach (7)	5.07%
Indicated Equity Risk Premium (8)	4.95%
Indicated Cost of Equity - Gas LDC Group (9)	10.96%

(1) See page 2 of this Attachment. Composite "A" rated long-term corporate bond yield based on the December 2025 average yield for A-rated corporate bonds and the implied forward rate for A-rated corporate bonds for the 2026-2030 period.

(2) See page 3 of this Attachment. Yield adjustment derived from historical corporate bond yield data (recent 12 months) found in the Mergent Bond Record.

(3) Sum of (1) and (2) above.

(4) Adjustment to reflect credit spread differential between "A" rated public utility bonds and A- / Baa1 rating of the Gas LDC Group, as reflected on page 3 of this Attachment. The 0.10% adjustment was derived via simple linear interpolation between the yield spread differential for the "Baa" rated and "A" rated public utility bonds, respectively ((5.97% - 5.77%)/3*1.5) =0.10%.

(5) Sum of (3) and (4) above, subject to rounding.

(6) See page 4 of this Attachment.

(7) See page 5 of this Attachment.

(8) Average of (6) and (7) above.

(9) Sum of (5) and (8) above, subject to rounding.

Risk Premium Method (RPM)
Corporate Bond Implied Forward Rates

Year	"Aaa" Rated Corp. Bonds	"Aaa" Rated Corp. Bonds Average	"A" Rated Corp. Bonds	"A" Rated Corp. Bonds Average	"Baa" Rated Corp. Bonds	"Baa" Rated Corp. Bonds Average
Recent Historical Spot Rates						
December 2025 Average (1)		5.310%	-	5.630%	-	5.900%
Implied Forward Rates - 3-Year and 5-Year Averages						
12/31/2026 (2)	5.854%	5.582%	5.988%	5.809%	6.329%	6.115%
12/31/2027 (2)	5.948%	5.901%	6.072%	6.030%	6.435%	6.382%
12/31/2028 (2)	6.035%	5.992%	6.144%	6.108%	6.530%	6.483%
12/31/2029 (2)	6.111%	6.073%	6.204%	6.174%	6.610%	6.570%
12/31/2030 (2)	6.176%	6.144%	6.253%	6.229%	6.679%	6.645%
2026-2028 Avg.		5.825%	-	5.982%	-	6.326%
2026-2030 Avg.		5.938%	-	6.070%	-	6.439%
Composite Rate		5.624%		5.850%		6.170%

(1) Source: Mergent Bond Record, Volume 92, No.1 (January 2026), at 120-121.

(3) Source: Corporate Bond Implied Forward Rates. Bloomberg Finance L.P. (Accessed February 6, 2026).

Risk Premium Method (RPM)
Historical Corporate Bond Yield Spread Differentials (January 2025 - December 2025)
Based on Moody's Long-Term Credit Ratings

	Corporate Bonds				Public Utility Bonds			Bond Yield Spread Differentials		
Period	"Aaa" Rated	"Aa" Rated	"A" Rated	"Baa" Rated	"Aa" Rated	"A" Rated	"Baa" Rated	"Aa" (Pub. Util.) vs. "Aaa" Corp.	"A" (Pub. Util.) vs. "Aaa" Corp.	"Baa" (Pub. Util.) vs. "Aaa" Corp.
Jan-25	5.46%	5.66%	5.80%	6.08%	5.74%	5.87%	6.05%	0.28%	0.41%	0.59%
Feb-25	5.32%	5.52%	5.66%	5.92%	5.60%	5.73%	5.90%	0.28%	0.41%	0.58%
Mar-25	5.29%	5.52%	5.65%	5.93%	5.61%	5.72%	5.91%	0.32%	0.43%	0.62%
Apr-25	5.45%	5.68%	5.85%	6.18%	5.78%	5.91%	6.11%	0.33%	0.46%	0.66%
May-25	5.54%	5.78%	5.97%	6.29%	5.90%	6.05%	6.23%	0.36%	0.51%	0.69%
Jun-25	5.46%	5.67%	5.86%	6.15%	5.78%	5.93%	6.12%	0.32%	0.47%	0.66%
Jul-25	5.45%	5.65%	5.82%	6.10%	5.74%	5.88%	6.08%	0.29%	0.43%	0.63%
Aug-25	5.35%	5.56%	5.72%	6.00%	5.63%	5.77%	5.98%	0.28%	0.42%	0.63%
Sep-25	5.21%	5.39%	5.55%	5.83%	5.48%	5.61%	5.81%	0.27%	0.40%	0.60%
Oct-25	5.13%	5.29%	5.45%	5.74%	5.37%	5.51%	5.71%	0.24%	0.38%	0.58%
Nov-25	5.26%	5.42%	5.58%	5.86%	5.49%	5.62%	5.83%	0.23%	0.36%	0.57%
Dec-25	5.31%	5.49%	5.63%	5.90%	5.57%	5.68%	5.88%	0.26%	0.37%	0.57%
12-Month Average	5.35%	5.55%	5.71%	6.00%	5.64%	5.77%	5.97%	0.29%	0.42%	0.62%

Source: Mergent Bond Record, January 2026, Volume 92, No. 1. Moody's Long-Term Corporate Bond Yield averages reference corporate and utility bonds with maturities as close as possible to 30 years.

Risk Premium Method (RPM)
Equity Risk Premium Using Total Market Approach
Gas LDC Group

Historical Equity Risk Premium

Annual Total Returns for S&P 500 Composite Index, Arithmetic Average (1926-2025) (1)	12.23%
Annual Total Returns for Long-Term Corporate Bonds, Arithmetic Average (1926-2025) (2)	6.08%
Historical Equity Risk Premium - Total Market (3)	6.15%

Prospective Equity Risk Premium

Prospective Annual Market Return (Next 3-5 years) (4)	11.72%
Prospective "Aaa" Rated Corporate Bond Yield (5)	5.62%
Prospective Equity Risk Premium - Total Market (6)	6.10%

Indicated Equity Risk Premium - Total Market (7)	6.12%
Beta Coefficient - Gas LDC Group (8)	0.79
Equity Risk Premium (Gas LDC Group) (9)	4.84%

(1) Arithmetic average of total returns for large company stocks (S&P 500 Index) (1926-2025). Source: Kroll Cost of Capital Navigator (accessed February 16, 2026).

(2) Source: Morningstar Corporate Bond Indices and SBBI Yearbook (Kroll, LLC), arithmetic average of total returns for long-term high-grade corporate bonds (1926-2025).

(3) (1) - (2) above.

(4) From page 1 of Attachment VVR-10

(5) From pages 1 and 2 of this Attachment. Represents lowest risk corporate debt securities.

(6) (4) - (5) above.

(7) Average of (3) and (6) above.

(8) Average beta coefficient reported by Value Line for the Gas LDC Group.

(9) (7) x (8) above.

Risk Premium Method (RPM)
Equity Risk Premium - Public Utility Index Approach
Gas LDC Group and Combination Utility Group

Historical Equity Risk Premium - Public Utility Index Approach

Annual Holding Period Returns for S&P 500 Utilities Index, Arithmetic Average (1926-2025) (1)	10.81%
Annual Yield on Moody's "A" Rated Public Utility Bonds, Arithmetic Average (1926-2025) (2)	6.21%
Equity Risk Premium (Historical) - Public Utility Index Approach (3)	4.59%

Currently Implied Equity Risk Premium - Public Utility Index Approach

DCF Approach - S&P 500 Utilities Index	
Dividend Yield (4)	2.97%
Growth Rate (5)	8.25%
DCF Market Return - S&P Utilities Index (6)	11.22%
Recent 6-Month Average of Moody's "A" Rated Public Utility Bond Yields (7)	5.68%
Equity Risk Premium (Currently Implied) - S&P 500 Utilities (8)	5.54%
Indicated Equity Risk Premium - Public Utility Index Approach (9)	5.07%

(1) Source: S&P 500 Utilities Index historical data (currently comprised of 30 utility companies). See page 6 of this Attachment.

(2) Source: Moody's Public Utility Manual and Mergent Bond Record. Historical yields on "A" rated utility bonds, representing the midpoint of Moody's reported utility credit ratings (Aa/A/Baa). See page 6 of this Attachment.

(3) (1) - (2) above.

(4) Source: www.spindices.com. Reported dividend yield for S&P 500 Utilities Index companies (January 30, 2026), adjusted upward by one-half of the expected dividend growth rate as reflected in footnote (5).

(5) Source: Bloomberg Finance LP. Average long-term consensus earnings growth estimate for the S&P 500 Utilities Index.

(6) (4) + (5) above.

(7) See page 3 of this Attachment.

(8) (6) - (7) above. Subject to rounding differences.

(9) Average of (3) and (8) above.

Year	S&P 500 Utilities Index	Moody's "A" Rated Utility Bond Yields	Moody's "Baa" Rated Utility Bond Yields
1926	5.38%	5.17%	5.67%
1927	28.99%	5.02%	5.46%
1928	56.94%	4.95%	5.33%
1929	11.98%	5.22%	5.76%
1930	-20.89%	5.06%	5.88%
1931	-34.45%	5.12%	6.90%
1932	-0.85%	6.46%	8.78%
1933	-20.30%	6.32%	9.38%
1934	-18.08%	5.55%	7.49%
1935	74.61%	4.61%	5.56%
1936	20.99%	4.08%	4.67%
1937	-35.64%	3.98%	5.09%
1938	21.92%	3.90%	5.26%
1939	11.71%	3.52%	4.50%
1940	-16.30%	3.24%	4.05%
1941	-30.50%	3.07%	3.84%
1942	14.25%	3.09%	3.73%
1943	47.07%	2.99%	3.58%
1944	18.23%	2.97%	3.52%
1945	53.66%	2.87%	3.39%
1946	2.66%	2.71%	3.03%
1947	-11.85%	2.78%	3.08%
1948	4.67%	3.02%	3.36%
1949	30.99%	2.90%	3.28%
1950	3.26%	2.79%	3.18%
1951	18.02%	3.11%	3.39%
1952	18.55%	3.24%	3.53%
1953	7.45%	3.49%	3.73%
1954	24.18%	3.16%	3.51%
1955	11.07%	3.22%	3.43%
1956	5.05%	3.56%	3.78%
1957	6.33%	4.24%	4.46%
1958	39.86%	4.20%	4.43%
1959	7.46%	4.78%	4.96%
1960	19.85%	4.78%	4.97%
1961	29.04%	4.62%	4.83%
1962	-2.61%	4.54%	4.75%
1963	12.26%	4.39%	4.67%
1964	15.69%	4.52%	4.74%
1965	4.67%	4.58%	4.78%
1966	-4.60%	5.39%	5.60%
1967	-0.59%	5.87%	6.15%
1968	5.45%	6.51%	6.87%
1969	-11.28%	7.54%	7.93%
1970	15.67%	8.69%	9.18%
1971	2.22%	8.16%	8.63%
1972	7.57%	7.72%	8.17%
1973	-17.59%	7.84%	8.17%
1974	-21.13%	9.50%	9.84%
1975	43.23%	10.09%	10.96%
1976	30.48%	9.29%	9.82%
1977	8.37%	8.61%	9.06%
1978	-3.53%	9.29%	9.62%
1979	13.27%	10.49%	10.96%
1980	14.27%	13.34%	13.95%
1981	11.19%	15.95%	16.60%
1982	24.90%	15.86%	16.45%
1983	19.47%	13.66%	14.20%
1984	24.47%	14.03%	14.53%
1985	31.64%	12.47%	12.96%
1986	28.08%	9.58%	10.00%
1987	-2.51%	10.10%	10.53%
1988	17.75%	10.49%	11.00%
1989	45.82%	9.77%	9.97%
1990	-2.83%	9.86%	10.06%
1991	13.98%	9.36%	9.55%
1992	7.64%	8.69%	8.86%
1993	14.38%	7.59%	7.91%
1994	-7.88%	8.31%	8.63%
1995	40.86%	7.89%	8.29%
1996	2.90%	7.75%	8.17%
1997	23.68%	7.60%	7.95%
1998	14.39%	7.04%	7.26%
1999	-8.67%	7.62%	7.88%
2000	58.55%	8.24%	8.36%
2001	-30.05%	7.76%	8.03%
2002	-29.99%	7.37%	8.02%
2003	26.26%	6.58%	6.84%
2004	24.28%	6.16%	6.40%
2005	16.84%	5.65%	5.92%
2006	20.99%	6.07%	6.32%
2007	19.38%	6.07%	6.33%
2008	-28.98%	6.52%	7.23%
2009	11.91%	6.05%	7.06%
2010	5.46%	5.45%	5.95%
2011	19.91%	5.04%	5.57%
2012	1.29%	4.13%	4.86%
2013	13.21%	4.48%	4.98%
2014	28.98%	4.28%	4.80%
2015	-4.85%	4.12%	5.03%
2016	16.29%	3.93%	4.68%
2017	12.11%	4.00%	4.38%
2018	4.11%	4.25%	4.67%
2019	26.35%	3.77%	4.19%
2020	0.48%	3.02%	3.39%
2021	17.67%	3.11%	3.36%
2022	1.57%	4.72%	5.03%
2023	-7.08%	5.54%	5.84%
2024	23.43%	5.54%	5.76%
2025	16.04%	5.77%	5.97%
Average	10.81%	6.21%	6.72%

Risk Premium Method (RPM)
Combination Utility Group - Indicated Cost of Equity

Prospective "A" Rated Corporate Bond Yield (1)	5.85%
Yield/Credit Spread Adjustment Between "A" Rated Corporate Bond Yields and "A" Rated Public Utility Bond Yields (2)	0.06%
Prospective "A" Rated Public Utility Bond Yield (3)	5.91%
Yield/Credit Spread Adjustment Between "A" Rated Public Utility Bonds and A-/Baa1 Rating of the Combination Utility Group (4)	0.10%
Prospective Bond Yield for Combination Utility Group (5)	6.01%
Equity Risk Premium	
- Total Market Index Approach (6)	4.72%
- Public Utility Index Approach (7)	5.07%
Indicated Equity Risk Premium (8)	4.89%
Indicated Cost of Equity - Combination Utility Group (9)	10.90%

(1) See page 2 of this Attachment. Composite "A" rated long-term corporate bond yield based on the December 2025 average yield for A-rated corporate bonds and the implied forward rate for A-rated corporate bonds for the 2026-2030 period.

(2) See page 3 of this Attachment. Yield adjustment derived from historical corporate bond yield data (recent 12 months) found in the Mergent Bond Record.

(3) Sum of (1) and (2) above.

(4) Adjustment to reflect credit spread differential between "A" rated public utility bonds and A- / Baa1 rating of the Combination Group, as reflected on page 3 of this Attachment. The 0.10% adjustment was derived via simple linear interpolation between the yield spread differential for the "Baa" rated and "A" rated public utility bonds, respectively ((5.97% - 5.77%)/3*1.5) =0.10%.

(5) (3) + (4) above. May reflect rounding differences.

(6) See page 8 of this Attachment.

(7) See page 5 of this Attachment.

(8) Average of (6) and (7) above.

(9) Sum of (5) and (8) above. Subject to rounding differences.

Risk Premium Method (RPM)
Equity Risk Premium Using Total Market Approach
Combination Utility Group

Historical Equity Risk Premium

Annual Total Returns for S&P 500 Index, Arithmetic Average (1926-2025) (1)	12.23%
Annual Total Returns for Long-Term Corporate Bonds, Arithmetic Average (1926-2025) (2)	6.08%
Historical Equity Risk Premium - Total Market (3)	6.15%

Prospective Equity Risk Premium

Prospective Annual Market Return (Next 3-5 years) (4)	11.72%
Prospective "Aaa" Rated Corporate Bond Yield (5)	5.62%
Prospective Equity Risk Premium - Total Market (6)	6.10%

Indicated Equity Risk Premium - Total Market (7)	6.12%
Beta Coefficient - Combination Utility Group (8)	0.77
Equity Risk Premium (Combination Utility Group Beta) (9)	4.72%

(1) Arithmetic average of total returns for large company stocks (S&P 500 Index) (1926-2025). Source: Kroll Cost of Capital Navigator (accessed February 16, 2026).

(2) Source: Morningstar Corporate Bond Indices and SBBI Yearbook (2023, Kroll, LLC), arithmetic average of total returns for long-term high-grade corporate bonds (1926-2025).

(3) (1) - (2) above.

(4) From page 1 of Attachment VVR-10.

(5) From pages 1 and 2 of this Attachment. Represents lowest risk profile corporate debt securities.

(6) (4) - (5) above.

(7) Average of (3) and (6) above.

(8) Average beta coefficient reported by Value Line for the Combination Utility Group.

(9) (7) x (8) above. Subject to rounding differences.

Risk Premium Method (RPM)
Non-Regulated Group - Indicated Cost of Equity

Prospective "A" Rated Corporate Bond Yield (1)	5.85%
Yield/Credit Spread Adjustment Between A Rated Corporate Bond Yield and Average A /A1 Rated Rated Corp. Bond Yield of Non-Regulated Group (2)	-0.03%
Prospective Bond Yield for Non-Regulated Group (3)	5.82%
Equity Risk Premium - Total Market Index Approach (4)	4.65%
Indicated Equity Risk Premium	4.65%
Indicated Cost of Equity - Non-Regulated Group (5)	10.48%

(1) See page 2 of this Attachment. Composite "A" rated long-term corporate bond yield based on the December 2025 average yield for A-rated corporate bonds and the implied forward rate for A-rated corporate bonds for the 2026-2030 period.

(2) See page 3 of this Attachment. Yield adjustment derived from historical corporate bond yield data (recent 12 months) reported in the Mergent Bond Record (January 2026). Yield differential between A corporate bonds and A / A1 rated corporate bonds.

(3) (1) + (2) above.

(4) See page 10 of this Attachment.

(5) Sum of (3) and (4) above. Subject to rounding differences.

Risk Premium Method (RPM)
Equity Risk Premium Using Total Market Approach
Non-Regulated Group

Historical Equity Risk Premium

Annual Total Returns for S&P 500 Index, Arithmetic Average (1926-2025) (1)	12.23%
Annual Total Returns for Long-Term Corporate Bonds, Arithmetic Average (1926-2025) (2)	6.08%
Historical Equity Risk Premium - Total Market (3)	6.15%

Prospective Equity Risk Premium

Prospective Annual Market Return (Next 3-5 years) (4)	11.72%
Prospective "Aaa" Rated Corporate Bond Yield (5)	5.62%
Prospective Equity Risk Premium - Total Market (6)	6.10%
Indicated Equity Risk Premium - Total Market (7)	6.12%
Beta Coefficient - Non-Regulated Group (8)	0.76
Equity Risk Premium (Non-Regulated Group) (9)	4.65%

(1) Arithmetic average of total returns for large company stocks (S&P 500 Index) (1926-2025). Source: Kroll Cost of Capital Navigator (accessed February 16, 2026).

(2) Source: Morningstar Corporate Bond Indices and SBBI Yearbook (2023, Kroll, LLC), arithmetic average of total returns for long-term high-grade corporate bonds (1926-2025).

(3) (1) - (2) above.

(4) From page 1 of Attachment VVR-10.

(5) From pages 1 and 2 of this Attachment. Represents lowest risk corporate debt securities.

(6) (4) - (5) above.

(7) Average of (3) and (6) above.

(8) Average beta coefficient reported by Value Line for the Non-Regulated Group.

(9) (7) x (8) above.