Attachment K

Exhibit No. TRANSCO-600

Testimony of Adrien McKenzie

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

New York Transco, LLC	**)**	**Docket No. ER24-___-000**

PREPARED DIRECT TESTIMONY OF ADRIEN M. MCKENZIE, CFA

Dated: October 17, 2023

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GLOSSARY OF ACRONYMS

Algonquin	Algonquin Power and Utilities, Inc.
CAPM	Capital Asset Pricing Model
Commission or FERC	Federal Energy Regulatory Commission
CPI	Consumer Price Index
D.C. Circuit	United States Court of Appeals for the District of Columbia Circuit
DCF	Discounted Cash Flow
DOE	United States Department of Energy
EIA	Energy Information Administration
EPS	earnings per share
Fitch	Fitch Ratings, Inc.
FPA	Federal Power Act
FOMC	Federal Open Market Committee
GDP	Gross Domestic Product
IBES	Institutional Brokers' Estimate System, now Refinitiv I/B/E/S Estimates
MISO TOs	Transmission-owning members of the Midcontinent Independent System Operator, Inc.
Moody's	Moody's Investors Service, Inc.
NETOs	Transmission-owning members of ISO New England
NYSE	New York Stock Exchange
NYISO	New York Independent System Operator, Inc.
OATT	Open Access Transmission Tariff
PCE	Personal Consumption Expenditure Price Index
ROE	return on equity
RTO	regional transmission organization
S&P	S&P Global Ratings
SPP	Southwest Power Pool, Inc.
Transco	New York Transco, LLC
Value Line	The Value Line Investment Survey

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Adrien M. McKenzie. My business address is 3907 Red River St., Austin, Texas 78751.

Q. In what capacity are you employed?

A. I am President of FINCAP, Inc., a firm providing financial, economic, and policy consulting services to business and government.

Q. Please describe your qualifications and experience.

A. The details of my qualifications and experience are included in Exhibit No. Transco-601 attached to my testimony.

A. Overview

Q. What is the purpose of your testimony?

A. My purpose is to present to the Commission my independent analysis of a just and reasonable base ROE for Transco in connection with transmission formula rates applicable to the Propel New York Energy Project ("Project"). In addition, my testimony evaluates the reasonableness of the incentive-based ROE requested by Transco for the Project.

Q. How is your testimony organized?

A. I first summarize my conclusions and recommendations regarding a just and reasonable base ROE for the Project. Next, I briefly review the operations and finances of Transco. I then discuss current conditions in the capital markets and their implications in evaluating a just and reasonable ROE for the Project. With this as a background, I explain the development of the proxy group of electric utilities used to apply my quantitative analyses and present the details of the technical studies I rely on in reaching

my conclusions. Consistent with the Commission's use of multiple financial models,[1] my analysis includes applications of the DCF model, the CAPM, the Risk Premium method, and the Expected Earnings approach. Recognizing the D.C. Circuit's recent decision to vacate Opinion No. 569-A based on its determination that the Commission had not adequately addressed earlier criticisms of Risk Premium method,[2] my testimony also briefly responds to these issues. Similarly, I address the specific concerns raised in Opinion Nos. 569 and 569-A regarding the Expected Earnings approach. The Risk Premium and Expected Earnings analyses are well-supported and relied upon to evaluate investors' required returns, and, as I demonstrate below, the determination of a just and reasonable base ROE for Transco should rely on these methodologies. Finally, I also provide a constant growth DCF analysis based on a proxy group of low risk non-utility firms, which serves as an additional reference point in evaluating a just and reasonable base ROE.

Q. What base ROE do you recommend for the Project?

A. Based on my evaluation, and in light of current capital market requirements, I conclude that an ROE of 10.7% is reasonable for the Project. Moreover, in light of the funding needs required to meet capital expenditure requirements, Transco's rate of return must be sufficient to preserve its financial integrity and access to capital.

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[1] *Coakley v. Bangor Hydro-Elec. Co.*, Order Directing Briefs, 165 FERC ¶ 61,030 (2018) ("Coakley Briefing Order"); *Ass'n of Buss. Advocating Tariff Equity v. Midcontinent Indep. Sys. Operator, Inc.*, Order Directing Briefs, 165 FERC ¶ 61,118 (2018) ("MISO Briefing Order"); *Ass'n of Buss. Advocating Tariff Equity v. Midcontinent Indep. Sys. Operator, Inc.*, Opinion No. 569, 169 FERC ¶ 61,129 (2019) ("Opinion No. 569").

[2] *MISO Transmission Owners v. FERC*, No. 16-1325 (D.C. Cir. 2022).

B. Regulatory Standards

Q. What is the role of the ROE in setting a utility's rates?

A. The ROE compensates shareholders for the use of their capital to finance the investment necessary to provide utility service. Investors commit capital only if they expect to earn a return on their investment commensurate with returns available from alternative investments with comparable risks. To be consistent with sound regulatory economics and the standards set forth by the U.S. Supreme Court in *Bluefield*[3] and *Hope*,[4] a utility's allowed ROE should be sufficient to: (1) fairly compensate capital invested in the utility; (2) enable the utility to offer a return adequate to attract new capital on reasonable terms; and (3) maintain the utility's financial integrity.

Q. What ultimately governs the selection of a fair ROE?

A. The Commission has recognized that a reasonable point estimate ROE should be determined based on the facts specific to each proceeding.[5] That point estimate must also meet the standards mandated by the U.S. Supreme Court.[6] As the Commission has reaffirmed, "[t]he Commission's ultimate task is to ensure that the resulting ROE

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[3] *Bluefield Waterworks & Improvement Co. v. Pub. Serv. Comm'n of W. Va.*, 262 U.S. 679 (1923) ("*Bluefield*").

[4] *FPC v. Hope Natural Gas Co.*, 320 U.S. 591 (1944) ("*Hope*").

[5] *See, e.g., Midwest Indep. Transmission Sys. Operator, Inc.*, 106 FERC ¶ 61,302 at P 8 (2004) ("*Midwest ISO*"), *aff'd in relevant part sub. nom.*, *Pub. Serv. Comm'n of Ky. v. FERC*, 397 F.3d 1004 (D.C. Cir. 2005).

[6] *See, e.g.*, *Midwest ISO.,* 106 FERC ¶ 61,302 at PP 13-14. The Commission observed that:

> [W]e are guided by the principle, enunciated by the Supreme Court, that an approved ROE should be "reasonably sufficient to assure confidence in the financial soundness of the utility [or, in this case, utilities] and should be adequate under efficient and economical management, to maintain and support its credit, and enable it to raise the money necessary for the proper discharge of its public duties.

Id. at P 13 (quoting *Bluefield*, 262 U.S. at 693).

satisfies the requirements of Hope and Bluefield."[7] This determination requires the Commission to consider all of the available evidence and identify an ROE that is just, reasonable, and sufficient to support Transco's need to attract capital and earn a competitive return and, at the same time, promote the Commission's goal of encouraging investment in electric utility infrastructure.

Q. How does the evaluation of a just and reasonable ROE relate to attracting private capital to utility infrastructure investment?

A. Under the competitive market paradigm that serves as the foundation for investment choices, investors' expected ROE is the key economic signal that allocates finite capital among competing opportunities. The allowed ROE and a reasonable opportunity to earn it are key to ensuring the flow of investment capital for new utility facilities. Apart from the impact that economic and market turmoil can have on the availability of capital, electric utility facilities compete with alternative investments. Utilities and their investors must commit huge sums to expand the transmission grid with new and upgraded facilities and additional funding will be provided only if investors anticipate an opportunity to earn a return that is sufficient to compensate for the associated risks and commensurate with returns available from alternative investments of comparable risk.

Q. Is it important that investors have confidence that the regulatory environment is constructive?

A. Yes. Past challenges for the economy and capital markets highlight the benefits of a fair and balanced ROE, and any departure from the path of supporting utility financial

[7] *Coakley Mass. Attorney Gen. v. Bangor Hydro-Electric Co.*, Opinion No. 531, 147 FERC ¶ 61,234 at P 144 (2014) ("Opinion No. 531"), *order on paper hearing*, Opinion No. 531-A, 149 FERC ¶ 61,032 (2014), *order on reh'g*, Opinion No. 531-B, 150 FERC ¶ 61,165 (2015), *vacated & remanded sub nom. Emera Me. v. FERC*, 854 F.3d 9 (D.C. Cir. 2017).

strength through a sound and stable ROE policy would be extremely shortsighted. Uncertainty and volatility undermine investor confidence, and regulatory signals are the primary driver of investors' risk assessments for utilities. Securities analysts study FERC and state commission orders and regulatory policy statements closely to gauge the financial impact of regulatory actions and to advise investors accordingly. Nevertheless, with respect to ROE, the Commission has recognized the potential disincentive to investment stemming from uncertainties in the administrative process for determining a just and reasonable ROE. In Order No. 679-A, the Commission concluded that "our hearing procedures for determining ROE can create uncertainty for investors," and noted that:

> Although our processes are designed to provide a just and reasonable return, we recognize that there can be significant uncertainty as to the ultimate return because of the uncertainties associated with administrative determinations (*e.g.*, selection of the proxy group, changes in growth rates, etc.) This can itself constitute a substantial disincentive to new investment.[8]

If regulatory actions instill confidence that the regulatory environment is supportive, investors will provide the capital necessary to support needed investment to expand transmission infrastructure, reduce congestion, improve reliability, and secure access to new generation, including wind and other renewable resources. Alternatively, absent a commitment by regulators to promote a sound and stable environment for utility investment and follow through on expectations for ROEs that are competitive with alternative investment opportunities, the flow of capital into utility infrastructure may not continue. As a result, the need for a constructive regulatory

[8] *Promoting Transmission Investment Through Pricing Reform*, Order No. 679-A, 117 FERC ¶ 61,345 at P 69 (2006), *order on reh'g*, 119 FERC ¶ 61,062 (2007).

environment, as well as regulatory certainty in supporting utility infrastructure investment, is as relevant today as ever.

II. ROE FOR TRANSCO

Q. What is the purpose of this section of your testimony?

A. This section of my testimony reviews ROE policies at the Commission and examines conditions in the capital markets and the general economy. I then summarize the results of my analysis and present my independent evaluation of a just and reasonable base ROE for the Project.

A. ROE Methodology

Q. Please describe the ROE framework established by Opinion No. 569-A.

A. In Opinion No. 569-A, the Commission relied on three financial models to establish a just and reasonable ROE for the MISO TOs: (1) a two-step DCF model, (2) the CAPM, and (3) the Risk Premium approach. Under the methodology adopted in Opinion No. 569-A, the composite zone of reasonableness is computed by averaging the low and high boundaries of each model.[9] To administer Section 206 of the FPA, the Commission stratified the composite zone of reasonableness into three equal parts, which it characterized as "below average risk," "average risk," and "above average risk" ranges.[10] For a utility of average risk, the existing ROE is presumptively just and reasonable if it falls within the middle third of the composite zone. With the exception

[9] Because the Risk Premium approach produces a single point estimate and not a range, the Commission imputed a range around the point estimate based on the average spread between the low and high boundaries of the two-step DCF and CAPM ranges.

[10] Opinion No. 569-A at P 194.

of minor corrections to certain inputs to the Risk Premium approach, the Commission affirmed these findings in Opinion No. 569-B.[11]

More recently, on August 9, 2022, the D.C. Circuit vacated the ROE framework established in Opinion No. 569-A.[12] Specifically, the court found that the Commission had failed to offer a reasoned explanation for its decision to reintroduce the Risk Premium model in Opinion No. 569-A after initially rejecting it in Opinion No. 569. Ruling that the Commission's reliance on the Risk Premium approach was arbitrary and capricious, the D.C. Circuit vacated the underlying orders.

Q. Did the D.C. Circuit take issue with any other aspects of the Commission's ROE framework?

A. No. While a variety of challenges were raised to the two-step DCF and CAPM methodologies adopted by the Commission in Opinion No. 569-A, the court concluded that these arguments were unpersuasive.[13] Similarly, the D.C. Circuit also rejected an array of complaints to the Commission's policy that establishes presumptively reasonable ranges for purposes of administering FPA Section 206 by dividing the overall composite ROE range of reasonableness into thirds.

Q. Is the use of multiple approaches to evaluate an ROE consistent with investor behavior and accepted regulatory practice?

A. Yes. The actual return that investors require is not directly observable. Different methodologies have been developed to estimate investors' required return on capital, but all such methodologies are simply theoretical tools and generally produce a range

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[11] *Ass'n of Bus. Advocating Tariff Equity v. Midcontinent Indep. Sys. Operator, Inc.,* Opinion No. 569-B, 173 FERC ¶ 61,159 (2020) ("Opinion No. 569-B"), *vacated & remanded sub nom. MISO Transmission Owners v. FERC*, No. 16-1325 (D.C. Cir. 2022).

[12] *MISO Transmission Owners v. FERC*, No. 16-1325 (D.C. Cir. 2022).

[13] *Id.*

of estimates based on different assumptions and inputs. As the Commission has noted, "[t]he determination of rate of return on equity starts from the premise that there is no single approach or methodology for determining the correct rate of return."[14]

There is no failsafe method to estimate investors' required cost of equity and there is no basis to conclude that investors rely on any one single method in arriving at the prices they are willing to pay for utility common stock. A publication authored for the Society of Utility and Regulatory Financial Analysts confirmed this view, concluding that:

> Each model requires the exercise of judgment as to the reasonableness of the underlying assumptions of the methodology and on the reasonableness of the proxies used to validate the theory. Each model has its own way of examining investor behavior, its own premises, and its own set of simplifications of reality. Each method proceeds from different fundamental premises, most of which cannot be validated empirically. Investors clearly do not subscribe to any singular method, nor does the stock price reflect the application of any one single method by investors.[15]

As this treatise succinctly observed, "no single model is so inherently precise that it can be relied on solely to the exclusion of other theoretically sound models."[16] Similarly, *New Regulatory Finance* concluded that:

> There is no single model that conclusively determines or estimates the expected return for an individual firm. Each methodology possesses its own way of examining investor behavior, its own premises, and its own set of simplifications of reality. Each method proceeds from different fundamental premises that cannot be validated empirically. Investors do not necessarily subscribe to any one method, nor does the stock price reflect the application of any one single method by the price-setting investor. There is no monopoly as to which method is used by investors.

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[14] *Nw. Pipeline Co.*, Opinion No. 396-C, 81 FERC ¶ 61,036 at 61,188 (1997).

[15] David C. Parcell, *The Cost of Capital – A Practitioner's Guide*, Soc'y of Util. & Regulatory Fin. Analysts (2010) at 84.

[16] *Id*.

> In the absence of any hard evidence as to which method outdoes the other, all relevant evidence should be used and weighted equally, in order to minimize judgmental error, measurement error, and conceptual infirmities.[17]

This is congruent with the advice of a recognized financial researcher and educator:

> Use more than one model when you can. Because estimating the opportunity cost of capital is difficult, only a fool throws away useful information. That means you should not use any one model or measure mechanically and exclusively.[18]

Referencing the results of multiple approaches provides greater insight into the expectations and requirements of investors.

Q. Can a mechanical application of any specific ROE methodology be expected to produce reasonable outcomes in every case and under all circumstances?

A. No. The Commission has previously recognized that a just and reasonable ROE should be determined based on the facts specific to each proceeding, and noted, "[a]s an initial matter, we emphasize that the primary question to be considered here is not what constitutes the best overall method for determining ROE generically. . . ."[19] Rather, the question involves a determination of what ROE is most appropriate in each specific case.[20] As the Commission has recognized, this evaluation should not be based on the mechanical application of a single quantitative methodology (or for that matter a mechanical application of a series of models); nor should it depend on a single statistical measure of central tendency. No single financial model predicts the required

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[17] Roger A. Morin, *New Regulatory Finance*, Pub. Utils. Reports, Inc. (2006) at 429.

[18] *Id.* at 430 (citing Stewart C. Myers, *On the Use of Modern Portfolio Theory in Public Utility Rate Cases: Comment*, Financial Management (Autumn, 1978) at 66-68).

[19] *Midwest ISO*, 106 FERC ¶ 61,302 at P 8.

[20] *Id.* This is consistent with *Emera Maine*, which noted that "[w]hether a rate . . . is unlawful depends on the particular circumstances of the case." *Emera Maine*, 854 F.3d at 19.

ROE with absolute precision and all financial models are based on a series of assumptions that are affected differently by market conditions.

Q. Do you believe the Commission should continue to include the Risk Premium method in its ROE methodology?

A. Yes. While the D.C. Circuit concluded that Opinion No. 569-A did not offer adequate explanation for the Commission's decision to reinstate the Risk Premium method after rejecting it in Opinion No. 569, the Risk Premium method is a widely accepted and sound approach to estimating the cost of equity. It would be wholly appropriate for the Commission to retain the Risk Premium model and simply provide the explanation the court believed was lacking, based on record evidence in that proceeding.

B. Base ROE for Transco

Q. What financial models do you rely on to evaluate the base ROE for Transco?

A. Consistent with the ROE methodology adopted in Opinion No. 569-A, my evaluation of a just and reasonable base ROE relies on the results of the two-step DCF model, the CAPM, and the Risk Premium method.

In addition, my testimony supports supplementing these methods to include the results of the Expected Earnings approach. The Expected Earnings approach serves as a direct measure of the expected returns on equity that investors associate with companies of comparable risk and provides a meaningful guide to the return the utility should be expected to earn on its book equity investment. Given that rates are established on the basis of the book value of a utility's investment, this is a relevant measure of the ROE that is consistent with regulatory standards of comparable earnings and capital attraction established in *Hope* and *Bluefield*.

Q. Do median values necessarily provide a superior basis to evaluate a just and reasonable base ROE for Transco in this case?

A. No. The cost of capital is an opportunity cost based on the returns that investors could realize by putting their money in other alternatives. In comparing the risks and prospects of Transco with other opportunities, there is no reason to believe that investors would distinguish between utilities where the ROE is established on a stand-alone basis and those that are subject to a single, RTO-wide ROE determination (e.g., the NETOs and the MISO TOs). Discriminating between single utilities and the NETOs or MISO TOs when evaluating a point estimate within the DCF range would violate the *Hope* and *Bluefield* standards governing the determination of a just and reasonable ROE in this case.

Capital markets are highly sophisticated and Transco must compete for capital with utilities across the nation, irrespective of any mechanical policies used by the Commission to establish a point estimate ROE from within a proxy group range. As a result, differentiating between a proceeding involving a single transmission utility and a joint filing of multiple RTO members ignores the requirements of investors, which are based on comparable-risk opportunities available in the capital markets. This is consistent with the Commission's prior findings. In approving the use of a national proxy group over a regional proxy group, the Commission observed that the determination "is a question of capital attraction and comparability of risk." As the Commission concluded:

> We agree that "the NETOs must compete for capital with other utilities (and companies in other sectors) throughout the nation," and that investors are not limited to investments in geographically adjacent states but instead participate in national or international capital markets. If the NETOs' ROE is significantly less than the returns of utilities in other parts of the nation, capital will more readily flow to areas other than

> New England and the NETOs may not be able to attract sufficient capital consistent with the *Hope* and *Bluefield* standards.[21]

Similarly, there is no basis to arbitrarily categorize ROE policies based on an artificial distinction between utilities that are subject to a unified, RTO-wide ROE and single utilities, such as Transco. Rather, in order to meet the *Hope* and *Bluefield* standards, the Commission's evaluation must be premised on the risk perceptions and requirements of actual investors in the capital markets who do not determine their required returns for utilities based solely on whether the company's FERC-jurisdictional ROE happens to be fixed as the result of a single-company proceeding, or on an RTO-wide basis. As a result, a mechanical policy of referencing the median is not supported.

Q. Is considering midpoint results consistent with the principles underlying a just and reasonable base ROE for Transco?

A. Yes. As noted earlier, the Commission has recognized that a just and reasonable ROE should be determined based on the facts specific to each proceeding. The paramount consideration that must be reflected in the choice of a just and reasonable ROE is the need to ensure that the end result meets the standards mandated by the Supreme Court in *Hope* and *Bluefield* to ensure that a utility can attract capital. This determination does not require the Commission to rely on a single statistical measure of central tendency. Rather, the Commission must consider the available evidence to make an informed evaluation of an ROE that is just, reasonable, and sufficient to support investment.

Q. What are the implications for the Commission's policy of encouraging continued investment in transmission infrastructure?

A. Investors commit capital only if they expect to earn a return on their investment commensurate with returns available from alternative investments with comparable

[21] Opinion No. 531 at P 96 (footnotes omitted).

risks. If the utility is unable to offer a return similar to that available from other opportunities, investors will become unwilling to supply the capital on reasonable terms. In evaluating an investment in the transmission sector of the electric power industry, investors will naturally seek to maximize their expected rate of return for a given level of risk. Awarding a downward-biased ROE by mechanically applying a particular formula based on the median would put single transmission companies such as Transco at a disadvantage, relative to the NETOs and MISO TOs.

Q. What are the results of the financial models discussed in your testimony for the proxy group of electric utilities?

A. The mean and midpoint values produced by the two-step DCF, CAPM, Risk Premium, and Expected Earnings approaches are presented on Exhibit No. Transco-603 and summarized in Table Transco-1 below.

TABLE TRANSCO-1
BASE ROE – SUMMARY OF RESULTS

Method	Range	Median	Midpoint
Two-Step DCF	8.23% -- 12.10%	9.58%	10.17%
CAPM			
IBES	9.70% -- 12.69%	11.19%	11.20%
Value Line	9.95% -- 13.08%	11.52%	11.52%
Average	9.83% -- 12.89%	11.36%	11.36%
Risk Premium	7.98% -- 12.78%	10.38%	10.38%
Expected Earnings	7.67% -- 15.15%	10.31%	11.41%
Composite ROE	**8.43% -- 13.23%**	**10.41%**	**10.83%**

As shown above, the results of my analysis produce a composite zone of reasonableness of 8.43% to 13.23%, with median and midpoint values averaging 10.41% and 10.83%, respectively.

Q. What do you conclude with respect to a just and reasonable base ROE for the Project?

A. Based on the results of my analyses, I determined that an ROE of 10.7% is just and reasonable for the Project. An ROE of 10.7% is bracketed by the median and midpoint values produced by the four financial models supported in my testimony.

My ROE recommendation is also confirmed by the results of the constant growth DCF model applied to a group of low-risk, non-utility firms.[22] As shown in Exhibit No. Transco-612, the median and midpoint values produced by the non-utility DCF study range from 10.55% to 11.51%. These results support a finding that continued reliance on the two-step DCF model imparts a downward-bias to the results of the Commission's ROE methodology and confirm the reasonableness of a 10.7% base ROE for the Project.

Q. In addition to the case-specific evidence supported in your testimony, what other benchmarks support a 10.7% base ROE for the Project?

A. A 10.7% base ROE is also consistent with the 10.02% ROE determined in Opinion No. 569-A.[23] The Commission has correctly noted that "prime interest rates and U.S. Treasury and public utility bond yields" may be considered as "indications of a change in capital market conditions."[24] The table below compares these key benchmarks over the record period considered in Opinion No. 569-A with current capital markets.

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[22] While my examination of ROE benchmarks in this testimony is limited to a DCF study for low-risk firms in the non-regulated sector, alternative methodologies such as the constant growth DCF method and Empirical CAPM approach can also provide meaningful guidance in assessing investors' required cost of equity.

[23] Opinion No. 569-A at P 3.

[24] Coakley Briefing Order at P 29; MISO Briefing Order at P 31.

TABLE TRANSCO-2
COMPARISON OF KEY BENCHMARKS

Series	September 2023	Opinion 569-A	Change (bps)
Prime Loan Rate	8.50%	3.25%	525
10-Year Treasury Bonds	4.38%	2.07%	231
30-Year Treasury Bonds	4.47%	2.72%	175
Baa Utility Bonds	6.15%	4.65%	150

Source: https://fred.stlouisfed.org/series/GS30; Moody's Credit Trends.

These bond yields, which serve as an objective benchmark for both the direction and magnitude of changes in investors' required rate of return, support a higher ROE for Transco, relative to the Commission's earlier determination for the MISO TOs. Considered in conjunction with the results of my analysis, this supports a finding that 10.7% is a just and reasonable base ROE for the Project.

This conclusion is also supported by reference to historical average ROEs approved by FERC and state regulatory commissions. For those cases since 2006 where the reference Baa utility bond yield was within 25 basis points of the 6.15% average during September 2023, the average ROE approved by the Commission for transmission operations was 10.71%.[25] Similarly, during 2005, when average utility bond yields were slightly lower than in September 2023, the ROE approved by state regulators for electric utilities averaged 10.54%.[26]

[25] Exhibit No. Transco-609 at pages 2-5.

[26] Regulatory Research Associates, *Regulatory Focus* (Jul. 6, 2006). During 2005, Baa-rated utility bond yields averaged 5.93%, versus 6.15% in September 2023.

Q. Is a 10.7% base ROE consistent with Commission policies to support investment in electric transmission infrastructure?

A. Yes. The Commission's regulatory actions have been successful in supporting much needed investment in wholesale transmission infrastructure. Unresponsive, mechanical decision-making that leads to inadequate returns would undermine the Commission's goal and the legislative mandate to promote capital investment in new transmission projects. This potential adverse outcome has been highlighted by the investment community with respect to the transmission segment of the power industry:

> The degree to which a utility revises its transmission capital plan will depend on expected returns…. Material reductions in the base ROE could lower the quality of and divert capital away from the transmission business, given its generally riskier profile than that for state-regulated utility businesses, such as distribution and generation. Moreover, investors could deploy capital to infrastructure projects with higher allowed returns, such as FERC-regulated natural gas pipelines, or to other industries generally.[27]

The need for regulatory certainty in supporting transmission infrastructure investment is as relevant today as ever, particularly in light of climate and renewable energy goals. An ROE of 10.7% for the Project is appropriate in light of the continued need to attract capital to transmission infrastructure and the imperative of meeting the *Hope* and *Bluefield* standards.

C. Incentive for New Transmission Investment

Q. What ROE incentive adders is Transco requesting in this proceeding?

A. As Company witness Mullin discusses in his testimony, in addition to a 50 basis point adder to recognize Transco's participation in NYISO, the company is requesting a 150

[27] Wolfe Research, Utils. & Power, *FERConomics: Risk to transmission base ROEs in focus* (June 11, 2013) at 11.

basis point adder for the risks and challenges of developing the Project and the expected consumer benefits.

Q. Why is it important to allow Transco an incentive ROE adder for the Project?

A. NYISO's mission is to continue the operation and development of a broad-based, independently managed transmission system, strengthen the network and enhance flexibility, and thereby facilitate continued reliability and effective wholesale competition throughout its region. Accelerating the shift towards decarbonization requires investment in critical transmission infrastructure to enable access to renewable resources. Insufficient transmission capacity is widely seen as a critical challenge to enhance grid reliability and enable cost-effective integration of clean energy. Ambitious goals to reduce carbon emissions have been established at the state and federal level, but as the DOE noted, "Multiple pathways exist for the United States to meet these clean energy goals, but all require upgrading and expanding the Nation's transmission infrastructure."[28]

To accommodate the scale of power transfers required to fulfill these objectives, transmission owners must do more than simply maintain existing systems to perform the function for which they were originally designed; rather, they are being directed to literally redesign their transmissions systems. Thus, transmission owners, including Transco and other members of NYISO, will commit billions of dollars of new capital to upgrade and expand the existing transmission grid. Early on, the DOE noted the importance of regulatory policies in supporting economic rewards that stimulate investment in new transmission:

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[28] United States Department of Energy, *Building a Better Grid Initiative to Upgrade and Expand the Nation's Electric Transmission Grid to Support Resilience, Reliability, and Decarbonization* (Jan. 11, 2022) at 3-4.

> The economic rewards from improving the transmission system must be greater than the rewards from maintaining the status quo or decreasing the system's ability to reliably support fair and efficient competitive wholesale markets. …The key to spurring new transmission investment lies in ensuring that the rewards offered by this system of regulation are commensurate with the risks of undertaking these investments and finding innovative approaches to align costs and benefits.[29]

Transmission projects such as the Project require enormous, upfront investments, and as the DOE recently reiterated, "Financial risk poses a significant barrier to pursuing large scale, multi-region transmission projects."[30] And while Federal tax incentives continue to pull capital toward clean generation, there are no comparable tax incentives for transmission infrastructure development. Given the benefits of an expanded grid and the significant new investment in transmission infrastructure that is generally deemed necessary to meet established policy goals, it is reasonable to establish an ROE for new transmission investments that incorporates additional incentives beyond the base ROE.

Q. Is an incentive-based ROE warranted for the Project?

A. Yes. To support Transco's efforts to expand investment in transmission infrastructure in a timely fashion, an adder above the base ROE is warranted for the Project. As other witnesses have documented, there are significant complexities, challenges, reliability impacts, economic benefits and risks that distinguish this upgrade from routine transmission investments. To support the efforts of Transco to expand investment in transmission infrastructure and offset the specific risks of the Project, an ROE incentive adder is warranted.

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[29] U.S. Department of Energy, *National Transmission Grid Study* (May 2002).

[30] United States Department of Energy, *Building a Better Grid Initiative to Upgrade and Expand the Nation's Electric Transmission Grid to Support Resilience, Reliability, and Decarbonization* (Jan. 11, 2022) at 10.

Q. What ROE is implied by the requested incentives?

A. Combining the 50 basis point RTO adder and 150 basis point adder for the risks and benefits of the Project with my recommended 10.7% base ROE implies a total ROE of 12.70%.

Q. Does this requested ROE meet Commission policy requirements?

A. Yes. Under the Commission's policies governing incentive-based ROEs, the total ROE of a utility including the impact of an incentive must fall within the zone of reasonableness.[31] The requested incentive-based ROE falls below the 13.23% upper end of the composite zone of reasonableness indicated by my analysis. As documented in the testimony of Transco's other witnesses, the scope and complexities of construction associated with the Project present substantial risks and challenges. Consistent with these special risks and the need to maintain Transco's financial standing and ability to attract capital, an ROE incentive adder is warranted.

III. FUNDAMENTAL ANALYSES

Q. What is the purpose of this section?

A. This section briefly reviews the organization and operations of Transco. As a predicate to my quantitative analyses, it examines conditions in the capital markets and the general economy. An understanding of the fundamental factors driving the risks and prospects of electric utilities is essential in developing an informed opinion of investors' expectations and requirements that are the basis of a fair rate of return.

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[31] *See, e.g.*, *Order No. 679,* 116 FERC ¶ 61,057 at P 93 (2006).

A. New York Transco, LLC

Q. Briefly describe Transco.

A. Transco is a New York-based developer, owner and operator of electric transmission facilities serving customers in New York. Transco was created to fund and develop transmission solutions identified in a 2012 report prepared by the New York State Transmission Assessment and Reliability Study Technical Working Group, which served as a blueprint for developing high-voltage electric transmission projects in New York State that are designed to replace aging infrastructure; ease congestion and reduce energy prices for the state's consumers; facilitate the growth and utilization of renewable generation resources; and, meet clean air and public policy goals while ensuring long-term grid reliability and resiliency. Transco is currently owned by Central Hudson Transmission LLC, Consolidated Edison Transmission, LLC, Grid NY LLC, and Iberdrola USA Networks New York Transco, LLC,[32] and is a voluntary transmission-owning member of the NYISO.

Q. Will additional capital be required in order to undertake these projects?

A. Yes. As discussed in the testimony of Company witness Mullin, capital expenditures associated with the development of the Project alone are estimated to total approximately $2.8 billion,[33] at least 70% of which will be funded by Transco. The Project represents one of the largest, non-merchant underground electric transmission development projects on the East Coast in terms of both circuit miles constructed and

[32] Transco's owners are affiliates of the four New York investor-owned utilities: Central Hudson Gas & Electric Corporation ("Central Hudson"), Consolidated Edison Company of New York, Inc. ("ConEd"), Niagara Mohawk Power Corporation d/b/a National Grid ("National Grid") and New York State Electric & Gas Corporation ("NYSEG") (collectively, the "NYTOs")

[33] This does not consider electric transmission upgrades that are the development responsibility of incumbent transmission owners.

total cost, and maintaining Transco's financial integrity and flexibility will be instrumental in attracting the necessary capital.

Q. What is Transco's capital structure?

A. Transco finances its investment in transmission projects through a combination of equity contributions from the NYTOs, as well as debt financing arranged by or on behalf of the Company. The Company's current capital structure consists of approximately 53% equity and 47% debt.

B. Outlook for Capital Costs

Q. Please summarize current economic and capital market conditions.

A. U.S. real GDP contracted 2.2% during 2020, but with the easing of COVID-19 lockdowns, the economic outlook improved significantly in 2021, with GDP growing at a pace of 5.8%, though growth was more subdued in 2022 at 1.9%.[34] More recently, increases in consumer spending and federal government spending led real GDP to grow by 2.2% and 2.1% in the first and second quarters of 2023, respectively.[35] Meanwhile, indicators of employment remain stable, with the national unemployment rate ticking slightly upward from the previous month to 3.8% in August 2023.[36]

The underlying risk and price pressures associated with the COVID-19 pandemic were overshadowed by a dramatic increase in geopolitical risks following Russia's invasion of Ukraine in February 2022. These events were also accompanied by heightened economic uncertainties as inflationary pressures due to COVID-19 supply chain disruptions were further stoked by sharp increases in global commodity prices. The substantial disruption in the energy economy and dramatic rise in inflation

[34] https://www.bea.gov/sites/default/files/2023-09/gdp2q23_3rd.pdf (last visited Oct. 16, 2023).

[35] https://www.bea.gov/data/gdp/gross-domestic-product (last visited Oct. 16, 2023).

[36] https://www.bls.gov/news.release/pdf/empsit.pdf (last visited Sep. 16, 2023).

led to sharp declines in global equity markets as investors reacted to the related exposures. S&P concluded that:

> The balance of risks is firmly on the downside—with rapid monetary tightening potentially pushing major economies into recession; growing geopolitical tensions exacerbating Europe's energy crisis; lingering high prices pressuring costs and eroding households' purchasing power; and China grappling with structural factors that are undermining its economic growth.[37]

Stimulative monetary and fiscal policies, coupled with supply-chain disruptions and rapid price rises in the energy and commodities markets, led to increasing concern that inflation would remain significantly above the Federal Reserve's longer-run benchmark of 2%. In June 2022, CPI inflation peaked at its highest level since November 1981. Since then, CPI inflation gradually moderated to 3.7% in August 2023.[38] The so-called "core" price index, which excludes more volatile energy and food costs, rose at an annual rate of 4.3% in August 2023.[39] Similarly, PCE inflation rose 3.5% percent in August 2023, or 3.9% after excluding more volatile food and energy costs.[40] As Federal Reserve Chair Powell has noted:

> Inflation remains well above our longer-run goal of 2 percent. . . . Inflation has moderated somewhat since the middle of last year, and longer-term inflation expectations appear to remain well anchored, as reflected in a broad range of surveys of households, businesses, and forecasters, as well as measures from financial markets. Nevertheless,

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[37] S&P Global Ratings, *Global Credit Conditions Q4 2022: Darkening Horizons*, Comments (Sept. 29, 2022).

[38] https://www.bls.gov/news.release/cpi.nr0.htm (last visited Oct. 12, 2023).

[39] *Id.*

[40] https://www.bea.gov/news/2023/personal-income-and-outlays-august-2023 (last visited Oct. 12, 2023).

> the progress—process of getting inflation sustainably down to 2 percent has a long way to go.[41]

Investor confidence has also been tested by turmoil in the banking sector, which led to increased volatility in bond and equity markets. The Federal Reserve and U.S. Treasury took quick and dramatic action to shore up banks' liquidity needs and strengthen public confidence in the banking system, but as Moody's noted, "bank stress has added uncertainty to the outlook."[42]

Q. How have these developments impacted the Federal Reserve's monetary policies?

A. Beginning in March 2022, the FOMC has responded to concerns over accelerating inflation by steadily raising the benchmark range for the federal funds rate.[43] Chair Powell noted that, "Since early last year, the FOMC has significantly tightened the stance of monetary policy. We've raised our policy interest rate by 5¼ percentage points and have continued to reduce our securities holdings at a brisk pace."[44] Chair Powell has surmised that the significant draw-down of the Federal Reserve's balance sheet holdings that began in June 2022 could be the equivalent of another one quarter percent rate hike over the course of a year.[45]

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[41] Federal Reserve, *Transcript of Chair Powell's Press Conference* (Sep. 20, 2023), https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20230920.pdf (last visited Oct. 2, 2023).

[42] Moody's Investors Service, *Baseline US macro forecasts unchanged but outlook more uncertain*, Sector Comment (Apr. 12, 2023).

[43] The FOMC is a committee composed of twelve members that serves as the monetary policymaking body of the Federal Reserve System.

[44] Federal Reserve, *Transcript of Chair Powell's Press Conference* (Sep. 20,, 2023), https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20230920.pdf (last visited Oct. 12, 2023).

[45] Federal Reserve, *Transcript of Chair Powell's Press Conference* (May 4, 2022), https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20220504.pdf.

Q. What impact do inflation expectations have on the return that equity investors require from electric utilities, including Transco?

A. Implicit in the required rate of return for long-term capital—whether debt or common equity—is compensation for expected inflation. This is highlighted in the textbook, Financial Management, Theory and Practice:

> The four most fundamental factors affecting the cost of money are (1) production opportunities, (2) time preferences for consumption, (3) risk, and (4) inflation.[46]

In other words, a part of investors' required return is intended to compensate for the erosion of purchasing power due to rising price levels. This inflation premium is added to the real rate of return (pure risk-free rate plus risk premium) to determine the nominal required return. As a result, higher inflation expectations lead to an increase in the cost of equity capital.

Q. Have these developments impacted the risks faced by utilities and their investors?

A. Yes. S&P reported that since 2020 credit ratings downgrades in the utility sector have outpaced upgrades by more than 3 to 1, with the median rating falling to the triple-B category for the first time.[47] S&P noted that, while inflation has moderated, it will continue to pressure credit quality in the utility industry, along with rising interest rates and higher capital spending.[48] Meanwhile, Fitch Ratings, Inc. noted that its deteriorating outlook for utilities "reflects mounting cost pressures for electric and gas utilities due to elevated commodity prices, inflationary headwinds and rising interest costs."[49] Value Line echoed these sentiments for electric utilities, concluding that:

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[46] Eugene F. Brigham, Louis C. Gapenski, and Michael C. Ehrhardt, *Financial Management, Theory and Practice*, Ninth Edition (1999) at 126.

[47] S&P Global Ratings, *The Outlook For North American Regulated Utilities Turns Stable*, RatingsDirect (May 18, 2023).

[48] *Id.*

[49] Fitch Ratings, Inc., *North American Utilities, Power & Gas Outlook 2023* (Dec. 7, 2022).

> **A Challenging Macroeconomic Backdrop Remains**
> Inflationary pressure, rising interest rates, and high energy and raw material prices will likely remain a significant burden for most utilities. Inflationary headwinds are raising operating and maintenance costs, as well as fuel prices. Meanwhile, the rising interest rate environment is leading income-oriented investors to the bond market, as well as increasing borrowing costs, which is especially significant for utilities as the usually have low returns on total capital and rely heavily on debt borrowings. We think many of these companies will continue to struggle with the higher costs related to the challenging macroeconomic climate in the near term.[50]

Q. Do changes in utility company beta values corroborate an increase in industry risk?

A. Yes. Beta measures a stock's price volatility relative to the overall market and reflects the tendency of a stock's price to follow changes in the market. The investment community relies on beta as an important guide to investors' risk perceptions. A stock that tends to respond less to market movements has a beta less than 1.00, while stocks that tend to move more than the market have betas greater than 1.00. Generally, a higher beta means the market perceives the stock to be riskier than a stock with a lower beta.

The significant shift in pre- and post-pandemic beta values for electric utilities is illustrated in Figure Transco-1 below. As illustrated there, the average beta value for the electric utilities covered by Value Line increased significantly with the beginning of the pandemic in March 2020, continued to increase during 2021, and has remained elevated. This dramatic increase in a primary gauge of investors' risk perceptions is further proof of the higher risk of electric utility common stocks.

[50] The Value Line Investment Survey, *Electric Utility (Central) Industry* (Sep. 8, 2023) (emphasis original).

FIGURE TRANSCO-1
ELECTRIC UTILITY BETA VALUES

Q. Have increased risks and higher inflation resulted in higher capital costs?

A. Yes. While the cost of equity is unobservable, the yields on long-term bonds provide a widely referenced benchmark for the direction of capital costs, including required returns on common stocks. Table Transco-3 below compares the average yields on Treasury securities and Baa-rated public utility bonds during 2021 with those required in September 2023.

TABLE TRANSCO-3
BOND YIELD TRENDS

Series	September 2023	2021	Change (bps)
10-Year Treasury Bonds	4.38%	1.44%	294
30-Year Treasury Bonds	4.47%	2.05%	242
Baa Utility Bonds	6.15%	3.35%	280

Source: https://fred.stlouisfed.org/series/GS30; Moody's Credit Trends.

As shown above, trends in bond yields since 2021 document a substantial increase in the returns on long-term capital demanded by investors. With respect to

utility bond yields—which are the most relevant indicator in gauging the implications for the Company's common equity investors—average yields in September 2023 exceed 2021 levels by 280 basis points.

Q. Would it be reasonable to disregard the implications of current capital market conditions in evaluating a just and reasonable base ROE for Transco?

A. No. Current capital market conditions reflect the reality of the situation in which Transco must attract and retain capital. The standards underlying a fair rate of return require an authorized ROE for the Company that is competitive with other investments of comparable risk and sufficient to preserve its ability to maintain access to capital on reasonable terms. These standards can only be met by considering the requirements of investors over the time period when the rates established in this proceeding will be in effect. If the upward shift in investors' risk perceptions and required rates of return for long-term capital is not incorporated in the allowed ROE, the results will fail to meet the comparable earnings standard that is fundamental in determining the cost of capital. From a more practical perspective, failing to provide investors with the opportunity to earn a rate of return commensurate with Transco's risks will weaken its financial integrity, while hampering the Company's ability to attract necessary capital.

IV. DEVELOPMENT AND SELECTION OF THE PROXY GROUP

Q. What is the purpose of this section of your testimony?

A. This section describes how I identify the proxy group of publicly traded electric utilities used to apply the financial models described in my testimony.

Q. How do you implement quantitative methods to estimate the cost of common equity for Transco?

A. Application of quantitative methods to estimate the cost of common equity requires observable capital market data, such as stock prices and beta values, that is not available

for Transco. Moreover, even for a firm with publicly traded stock, the cost of common equity can only be estimated. As a result, applying quantitative models using observable market data only produces an estimate that inherently includes some degree of observation error. Thus, the accepted approach to increase confidence in the results is to apply alternative quantitative methods to a proxy group of publicly traded companies that investors regard as risk comparable. The results of the analysis for the sample of companies are relied upon to establish a range of reasonableness for the cost of equity for the specific company at issue.

Q. What specific criteria do you initially examine to identify a proxy group of regulated electric utilities?

A. Consistent with the Commission's accepted approach, I begin with the following criteria to identify a proxy group of electric utilities:

1. Companies that are included in the Electric Utility Industry groups compiled by Value Line.
2. Electric utilities that paid common dividends over the last six months and have not announced a dividend cut since that time.
3. Electric utilities with no ongoing involvement in a major merger or acquisition that would distort quantitative results.

In addition, the Commission has determined that credit ratings from both major agencies—Moody's and S&P—should be considered independently as screening criteria when evaluating comparable risk. In evaluating credit ratings to identify a proxy group of utilities with comparable risks, the Commission has adopted a "comparable risk band," interpreted as one "notch" higher or lower than the corporate credit ratings of the utility at issue and within the investment grade ratings scale.

Q. How did you apply the Commission's credit ratings criteria to Transco?

A. Neither Moody's or S&P currently publishes an overall corporate or issuer credit rating for Transco. Accordingly, the criteria used to identify my risk-comparable proxy group

assume that Transco would qualify for ratings equivalent to the average Baa2 Moody's issuer rating and BBB+ S&P corporate credit rating maintained by the firms in Value Line's Electric Utility industry groups. These ratings benchmarks are also supported by the credit profiles of the NYTOs. Consistent with the Commission's determination that a triple-B rating is a "minimum investment rating for an electric utility,"[51] other new entrant, stand-alone transmission companies have also adopted a similar approach based on industry credit metrics.[52] Applying the one notch higher or lower band under the Commission's guidelines results in screening criteria of Baa1 to Baa3 based on Moody's credit ratings and A- to BBB when referencing S&P's ratings.

Q. Are there any other publicly traded utilities that should be included in the proxy group?

A. Yes. Algonquin should also be considered in evaluating investors' cost of equity for Transco. Algonquin is not rated by Moody's, but it has been assigned a credit rating of BBB by S&P, which falls within the comparable risk band.[53] While not yet included in Value Line's three primary Electric Utility industry groups,[54] Algonquin is a North American diversified generation, transmission, and distribution utility with over $17 billion in total assets. A majority of Algonquin's revenues, earnings, and assets are

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[51] *Duquesne Power & Light Co.*, 118 FERC ¶ 61,087 at P 53 (2007).

[52] *See, e.g., Northern Pass Transmission Co,* Docket No. ER11-2377 at Exh. NPT-600 (Dec. 15, 2010), and *Trans-Allegheny Interstate Line Co.,* Docket No. ER07-562 at Exh. TRC-100 (Feb. 21, 2007).

[53] As the Commission stated explicitly in Opinion No. 531, a company is not required to have both S&P and Moody's credit ratings for inclusion in the proxy group. *See,* Opinion No. 531 at n. 208 ("We will not require that a company have both S&P and Moody's ratings to be eligible for inclusion in a proxy group, and we will screen only the available rating.").

[54] Inclusion in Value Line's Electric Utility industry groups is not a Commission requirement. *See, Martha Coakley v. Bangor Hydro-Elec. Co.*, 147 FERC ¶ 61,234 at P 102 (2014) (*noting,* "as there may be other reliable sources that investors rely upon, we will not mandate the use of Value Line in all cases.")

related to its regulated utility operations,[55] and investors would regard Algonquin as a comparable investment alternative that is relevant to an evaluation of the required rate of return for Transco.

In addition, Emera Inc.'s electric and gas utility operations are comparable to those of the other utilities in the proxy group. Although Value Line currently includes Emera Inc. in its power industry group, rather than its utility groups, Emera Inc.'s regulated electric and gas utility operations are its dominant businesses and account for approximately 95% of consolidated net income.[56] Emera Inc.'s Florida and New Mexico utility operations account for 69% of consolidated net income.[57] Thus, investors would regard Emera Inc. as a comparable investment alternative that is relevant to an evaluation of the required rate of return for the Company.

Q. Please identify the proxy group used in your analyses.

A. As shown on Exhibit No. Transco-602, applying the criteria outlined above results in a proxy group of thirty-two utilities, which I refer to as the "Electric Group."

V. APPLICATION OF FINANCIAL MODELS

Q. What is the purpose of this section of your testimony?

A. This section explains my application of the two-step DCF, CAPM, Risk Premium, and Expected Earnings methods.

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[55] For example, Algonquin reported that during 2022 regulated utility operations accounted for 84% of total revenues, with approximately 82% of regulated revenues being attributable to operations located in the United States. Algonquin Power & Utilities Corp., *Annual Information Form for the Year Ended December 31, 2022* (Mar. 17, 2023).

[56] Emera Inc., *Investors Presentation* (September & October 2023). https://s25.q4cdn.com/978989322/files/doc_presentations/2023/Sep/06/sept-oct-2023-marketing-deck.pdf (last visited Oct. 2, 2023).

[57] *Id.*

A. Two-Step DCF Model

Q. What market valuation process underlies DCF models?

A. DCF models assume that the price of a share of common stock is equal to the present value of the expected cash flows (*i.e.*, future dividends and stock price appreciation) that will be received while holding the stock, discounted at investors' required rate of return. Thus, the cost of equity is the discount rate that equates the current price of a share of stock with the present value of all expected cash flows from the stock.

Q. What form of the DCF model is customarily used to estimate the cost of equity?

A. Rather than developing annual estimates of cash flows into perpetuity, the DCF model can be simplified to a "constant growth" form:[58]

$$P_0 = \frac{D_1}{k_e - g}$$

where: P_0 = Current price per share;
D_1 = Expected dividend per share in the coming year;
k_e = Cost of equity; and
g = Investors' long-term growth expectations.

The cost of common equity (k_e) can be isolated by rearranging terms within the equation:

[58] The constant growth DCF model is dependent on a number of strict assumptions, which in practice are never entirely met. These include a constant growth rate for both dividends and earnings; a stable dividend payout ratio; the discount rate exceeds the growth rate; a constant growth rate for book value and price; a constant earned rate of return on book value; no sales of stock at a price above or below book value; a constant price-earnings ratio; a constant discount rate (*i.e.*, no changes in risk or interest rate levels and a flat yield curve); and all of the above extend to infinity. (As discussed in the text below, the Commission's two-stage DCF model also depends on these assumptions, with the sole exception of the constant earnings growth rate.) Nevertheless, the constant growth DCF method provides a workable and practical approach to estimate investors' required return that is widely referenced in utility ratemaking.

$$k_e = \frac{D_1}{P_0} + g$$

This constant growth form of the DCF model recognizes that the rate of return to stockholders consists of two parts: (1) dividend yield (D_1/P_0) and (2) growth (*g*). In other words, investors expect to receive a portion of their total return in the form of current dividends and the remainder through stock price appreciation.

Q. What is the distinction between the two-step DCF method for electric utilities and the constant growth DCF model outlined above?

A. The Commission's two-step DCF method for electric utilities assumes that investors differentiate between near-term growth forecasts, such as the EPS growth rates published by securities analysts, and some notion of longer-term growth extending into the distant future. Under the Commission's two-step DCF method, the first growth rate is represented by analysts' consensus EPS growth projections specific to each individual utility in the proxy group, while the second growth rate is based on long-term forecasts of growth in nominal GDP. Based on this assumption of disparate growth expectations, the two-step DCF method employs two separate growth rates for each company, which are weighted to arrive at a single value for the "*g*" component.[59]

Q. How do you determine the dividend yield for the utilities in your proxy group?

A. An average dividend yield is developed for each utility in the Electric Group during the six months from April to September 2023. This calculation is made by dividing the indicated dividend in each month by the corresponding average of the monthly low and high stock prices. The resulting six-month average historical dividend yields are presented on page 1 of Exhibit No. Transco-604.

[59] While I apply the Commission's two-step DCF method, the assumptions about investor expectations and reliance on GDP growth that underly this approach are not substantiated by evidence.

Q. What growth rate do you use to adjust this historical dividend yield?

A. Consistent with the Commission's guidance, I adjust the historical dividend yield using only the analysts' EPS growth estimate.[60]

Q. What is the source of the analysts' consensus EPS growth rates used in your application of the Commission's two-step DCF method?

A. I obtain IBES earnings growth rates for the utilities in the Electric Group from *Yahoo! Finance*.

Q. How do you arrive at your projected growth rate in nominal GDP, representing the second stage of the Commission's DCF model?

A. I rely on long-term projections published by IHS Markit and the EIA, as well as the Social Security Administration forecast over the next 50 years. This resulted in an average GDP growth rate of 4.16%. The calculation of the long-term growth rate in nominal GDP used in my application of the Commission's two-step DCF model is presented on page 2 of Exhibit No. Transco-604.

Q. What weighting do you assign these respective growth rates to arrive at the single *"g"* component of the two-step DCF model?

A. Following the practice adopted in Opinion No. 569-A, I weight the individual analysts' EPS growth rates by 80% and the GDP growth projection by 20% to compute a single, two-step growth rate for each of the utilities in the proxy group.

Q. Where do you present the results of your two-step DCF analyses?

A. After combining the dividend yields and the weighted average of the respective analysts' projections and GDP growth forecast for each utility, the resulting cost of common equity estimates for the Electric Group are shown on page 1 of Exhibit No. Transco-604.

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[60] Opinion No. 569 at P 98.

Q. In evaluating the results of the DCF model, is it appropriate to eliminate illogical cost of equity estimates?

A. Yes. Consistent with Opinion No. 569-A, in applying quantitative methods to estimate the cost of equity, it is essential that the resulting values pass fundamental tests of reasonableness and economic logic. Accordingly, DCF estimates that are implausibly high or low should be eliminated when evaluating the results of this method.

Q. What is the Commission's current position with respect to evaluating DCF values at the high end of the range?

A. With respect to the evaluation of individual cost of equity estimates, the Commission has established a high-end test based on 200% of the median value from each financial model before eliminating estimates at the low or high end of the range.[61]

Q. What is your conclusion with respect to an evaluation of two-step DCF values at the high end of the range?

A. As shown on page 1 of Exhibit No. Transco-604, the upper end of the two-step DCF results for the Electric Group is set by a cost of equity estimate of 18.52%. While this value falls 34 basis points below the Commission's high-end test of 18.86%, I believe a cost of equity estimate of this magnitude meets the Commission's definition of "irrationally or anomalously high"[62] and is properly excluded.

Q. What low-end threshold has the Commission adopted?

A. Starting with the average yield on Baa-rated public utility bonds for the six-month study period, the Commission adds an increment equal to 20% of the market risk premium

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[61] Opinion No. 569-A at P 154.

[62] *Ass'n of Bus. Advocating Tariff Equity v. Midcontinent Indep. Sys. Operator, Inc.*, 171 FERC ¶ 61,154 at P 152 (2020).

used to apply the CAPM.[63] Combining an average yield on Baa utility bonds of 5.80% for the six months ending September 2023 with 20% of the 7.65% average CAPM market risk premium[64] results in a low-end threshold of 7.33%.

Q. Do you exclude any low-end DCF estimates from your analyses?

A. Yes. As shown on page 1 of Exhibit No. Transco-604, I exclude six DCF values ranging from -4.71% to 7.23%, which fall below the Commission's low-end threshold.

Q. What other consideration has the Commission raised in evaluating cost of equity estimates?

A. The Commission has also suggested that cost of equity estimates should be subject to a "natural break" analysis, based on the difference between individual values and the next-lowest or next-highest estimate.[65]

Q. Do you agree that the difference between individual cost of equity estimates can be used as a gauge of reasonableness?

A. No. The dispersion between a particular cost of equity result and the next lowest value provides no relevant information in evaluating the reasonableness of estimates at the upper end of the range. The key fallacy underlying the natural break analysis is the implicit assumption that estimating the cost of equity involves a process of sampling. On the contrary, through application of proxy group criteria, the Commission has identified all of the utilities deemed to be of comparable risk. In other words, the array of cost of equity estimates produced by the ROE analyses represents the entire population, not a sample of the population. We are not drawing 20 colored marbles from an urn containing hundreds and seeking to make inferences regarding the makeup

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[63] Opinion No. 569 at P 387; Opinion No. 569-A at P 161.

[64] Computed as the average of the 6.75% IBES-based CAPM market risk premium (Exhibit No. Transco-605) and 7.54% Value Line-based CAPM market risk premium (Exhibit No. Transco-607).

[65] Opinion No. 569 at P 395; Opinion No. 569-A at P 153.

of the unobserved remainder. Rather, we are analyzing all of the marbles (or all of the relevant, comparable-risk companies). As a result, the dispersion of individual values is not a valid test of how well a specific cost of equity estimate reflects investors' expectations and required returns.

If there is any statistical observation to be made regarding the cost of equity estimates produced by any single financial model, it is that the relatively small size of the population (the proxy group) makes it more likely that there will be a "break" in the data set relative to an analysis for a larger population. That is not evidence of a flaw in the results. Rather, it is a predictable function of the size of the proxy group of comparable-risk utilities. Trimming so-called "outliers" on this basis has the unreasonable effect of arbitrarily making that small population even smaller and thereby skewing the results.

Moreover, the goal in evaluating the results of financial models, such as the DCF and CAPM approaches, is not to identify "outliers," it is to remove estimates that are clearly illogical for purposes of identifying the "broad range of potentially lawful ROEs" that constitutes the zone of reasonableness. The identification of clearly illogical results should be a case-specific determination relying on the specific evidence at hand. The notion of an "outlier" in the context of statistics and sampling theory is an entirely separate concept from the evaluation of cost of equity estimates for the population of comparable risk utilities. Apart from the fact that the arithmetic difference between two individual cost of equity estimates does not provide a sound basis to evaluate the economic validity of either value, the magnitude of the "break" that might be suggestive of an "outlier" is arbitrary and without empirical foundation.

Q. This notwithstanding, would there be any arguable basis to exclude the 12.10% high-end value from your two-step DCF analysis based on a natural break analysis?

A. No. The Commission has clarified that in applying a natural break analysis to evaluate results at the high end of the range, the purpose is "to screen out companies whose growth rates are unsustainably high and therefore fail a threshold test of economic logic."[66] As shown on page 1 of Exhibit No. Transco-604, the IBES growth rate underling the 12.10% DCF estimate is 8.10%. This falls significantly below other IBES growth rates that the Commission has previously accepted as reasonable.[67] It is also less than growth rates for other firms in the Electric Group.[68]

Moreover, the "break" between the 12.10% value and the next lowest result is 75 basis points, which is not materially higher than the dispersion between other observations in the array of two-step DCF estimates. Thus, not only is a natural break analysis misguided and lacking any objective basis, a differential of 75 basis points provides no evidence that the 12.10% value at the top end of the two-step DCF range is "truly irrational or anomalously high."[69] Beyond this, remaining low-end values in the 8% range are assuredly far below investors' required rate of return.

Q. What is the range resulting from your two-step DCF analysis?

A. As shown on page 1 of Exhibit No. Transco-604, the two-step DCF analysis for the Electric Group results in a range of 8.23% to 12.10%. The median and midpoint values are 9.58% and 10.17%, respectively.

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[66] Opinion No. 569-B at P 79.

[67] For example, the Commission's DCF results in Docket No. EL14-12 incorporated an IBES growth rate of 11.66%. Opinion No. 569-A at p. 125 ("MISO I DCF Results").

[68] As shown on page 1 of Exhibit No. Transco-604, for example, the IBES EPS growth rate for NextEra Energy, Inc. is 8.80%, while Otter Tail Corporation's EPS growth forecast is 9.00%.

[69] Opinion No. 569-A at P 154.

B. Capital Asset Pricing Model

Q. Please describe the CAPM.

A. The CAPM approach is generally considered to be the most widely referenced method for estimating the cost of equity among academicians and professional practitioners, with the pioneering researchers of this method receiving the Nobel Prize in 1990. The CAPM is a theory of market equilibrium that measures risk using the beta coefficient. Assuming investors are fully diversified, the relevant risk of an individual asset (*e.g.*, common stock) is its volatility relative to the market as a whole, with beta reflecting the tendency of a stock's price to follow changes in the market. A stock that tends to respond less to market movements has a beta less than 1.00, while stocks that tend to move more than the market have betas greater than 1.00. The CAPM is mathematically expressed as:

$$R_j = R_f + \beta_j(R_m - R_f)$$

where: R_j = required rate of return for stock j;
R_f = risk-free rate;
R_m = expected return on the market portfolio; and
B_j = beta, or systematic risk, for stock j.

Like the DCF model, the CAPM is an *ex-ante*, or forward-looking, model based on expectations of the future. As a result, in order to produce a meaningful estimate of investors' required rate of return, the CAPM must be applied using estimates that reflect the expectations of actual investors in the market, not with backward-looking, historical data.

Q. What market rate of return was adopted by the Commission to apply the CAPM in Opinion No. 569-A?

A. Under the approach considered by the Commission in Opinion No. 569-A, the expected market rate of return was estimated by conducting a DCF analysis on the dividend paying firms in the S&P 500.[70]

Q. What beta values did the Commission adopt to apply the CAPM in Opinion No. 569-A?

A. The Commission relied on the beta values reported by Value Line, which, in my experience, is the most widely referenced source for beta in regulatory proceedings and is widely relied upon by investors. As noted in *New Regulatory Finance*:

> Value Line is the largest and most widely circulated independent investment advisory service, and influences the expectations of a large number of institutional and individual investors . . . Value Line betas are computed on a theoretically sound basis using a broadly based market index, and they are adjusted for the regression tendency of betas to converge to 1.00.[71]

The fact that investors rely on Value Line betas in evaluating expected returns for utility common stocks provides strong support for this approach.

Q. The Commission has suggested that it may be theoretically incorrect to apply the CAPM using Value Line betas and a market return based on the S&P 500.[72] What is the crux of this argument?

A. Opinion No. 569-A stated that there is an "imperfect correspondence" between a market risk premium based on the dividend-paying firms in the S&P 500 and Value Line betas, which are determined based on a comparison of each stock's volatility relative to the

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[70] Opinion No. 569-A at P 210.

[71] Roger A. Morin, *New Regulatory Finance*, Pub. Utils. Reports, Inc. (2006) at 71.

[72] Opinion No. 569-A at P 75.

stocks in the NYSE, rather than the S&P 500. While observing that there is substantial evidence that investors rely on Value Line betas,[73] in its decision in *Mystic*, the Commission accepted FERC Trial Staff's proposal to use Bloomberg-based, alternative betas derived from the returns to the S&P 500 Index.[74]

Q. Do you agree that there is a lack of correspondence between a market return based on the S&P 500 and Value Line beta values?

A. No. Under the CAPM, the volatility at issue theoretically relates the market price of the stock with the market price of every other possible investment opportunity in the "market," including collectible cars and gold bullion. Just as it is not possible to precisely define investors' growth expectations when applying the DCF model, the forward-looking market return and beta values are unobservable and must be estimated. Application of the DCF approach to the dividend-paying firms in the S&P 500 provides a sound proxy for investors' expected return on the "market." Similarly, Value Line's published beta values offer an objective proxy for an unobservable, forward-looking beta. There is no "mismatch," as Opinion No. 569-A and *Mystic* seem to imply.

The contention that there is an "imperfect correspondence" between a market return that references the S&P 500 and beta values estimated against the NYSE is further disproved by reference to studies in the financial research. *Marston & Harris* noted that it derived an estimate of the market rate of return for a sample of approximately 400 companies selected from the S&P 500, while the beta values used in the study were calculated "against . . . all NYSE securities."[75] This approach, used

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[73] *See, e.g.,* Opinion No. 569-A at P 61.

[74] *Constellation Mystic Power, LLC,* 176 FERC ¶ 61,019 at PP 77, 85 (2021) ("*Mystic*"). *See also, DATC Path 15, LLC,* 177 FERC ¶ 61,115 at P 111 (2021) ("*DATC*").

[75] Felicia Marston and Robert S. Harris, *Risk and Return: A Revisit Using Expected Returns*, Fin. Review (Feb. 1993) ("*Marston & Harris*"). Value Line betas are also derived based on weekly percentage changes in the NYSE.

by recognized researchers in a peer-reviewed journal sponsored by the Eastern Finance Association, mirrors the CAPM approach adopted in Opinion No. 569-A. Similarly, in applying a market rate of return based on the dividend paying firms in the S&P 500, the Staff of the Illinois Commerce Commission also relied on published betas from Value Line.[76]

Q. Is there other evidence that undercuts the argument of a lack of correspondence between a market return for the S&P 500 and Value Line betas?

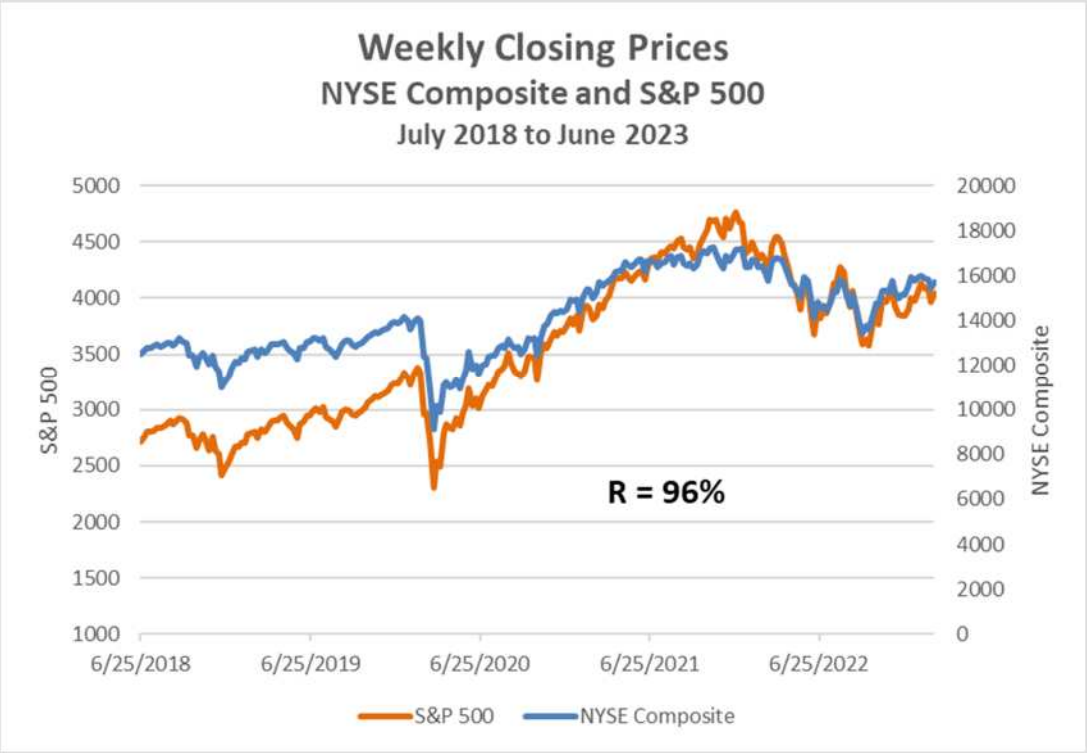
A. Yes. Beta measures the variability of the price of a common stock relative to the broader market. While it is possible to calculate this measure of relative price volatility using alternative market benchmarks (*i.e.*, NYSE or S&P 500), to the extent that movements in market indices are driven by the stock prices of very large capitalization companies and thus move in tandem, the beta values using similar time periods would be indistinguishable. If there is no systemic difference in the relative movements of the NYSE and the S&P 500, then there is no basis to suggest that a beta calculated against the NYSE would not apply equally to a market rate of return estimated by reference to the S&P 500.

The degree to which movements in the NYSE and S&P 500 are synchronized can be tested through correlation analysis. The correlation coefficient measures the degree that two variables move together. A correlation coefficient of 0.0 would indicate that there is no consistent co-movement between two variables, while a correlation coefficient of 1.0 would indicate perfect correlation, *i.e.*, that 100% of the change in one variable is reflected in the other variable.

[76] *Direct Testimony of Rochelle Langfeldt*, Illinois Commerce Commission, Docket No. 01-0432 (2001) at 27 (citing "[t]he average Value Line adjusted beta for the Electric sample.").

Figure Transco-2 displays the weekly percentage changes in the NYSE and the S&P 500 over the five-year period ending June 30, 2023:

FIGURE TRANSCO-2



As indicated on the chart, this analysis results in a correlation coefficient of 0.96, meaning that weekly changes for the NYSE are almost perfectly matched by similar movements in the S&P 500. The high degree of correlation between movements in the NYSE and movements in the S&P 500 undercuts any notion of a "mismatch" between Value Line betas and a market return predicated on a subset of the S&P 500.

Q. Are there other factors that also weigh in favor of continued reference to Value Line betas, versus those derived from Bloomberg?

A. Yes. Value Line is recognized as being the most widely available source of investment information to investors, and citations in many textbooks and other sources support its

usefulness as a guide to investors' expectations.[77] Value Line is available at nominal prices for paper subscription or internet access, as well as being freely available to investors in libraries and through many brokerage offices. Importantly, the beta values reported by Value Line are updated on a weekly basis and calculated using a consistent methodology.

This contrasts with Bloomberg-derived betas, which are dependent on criteria specified by each individual user and subject to the potential for subjective manipulation to produce a desired end-result. Meanwhile, Bloomberg is available only to a select subset of investors that can afford substantial annual subscription fees to obtain the proprietary terminal required to access Bloomberg data. The administrative benefits associated with reliance on beta values from Value Line, including a consistent methodology by an independent third-party and immunity to selective changes in assumptions, support continued reference to Value Line betas in applying the CAPM approach.

Q. How then do you calculate the market rate of return required to apply the CAPM?

A. I use the same approach considered by the Commission in Opinion No. 569-A.[78] In order to capture the expectations of today's investors in current capital markets, the expected market rate of return is estimated by conducting a DCF analysis on the dividend paying firms in the S&P 500.

I obtain the dividend yield for each company from Value Line and the IBES EPS growth projections for each firm published by Refinitiv. As shown on Exhibit No.

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[77] *See, e.g.*, Roger A. Morin, *New Regulatory Finance*, Pub. Utils. Reports, Inc. (2006) at 71 ("Value Line is the largest and most widely circulated independent investment advisory service, and influences the expectations of a large number of institutional and individual investors.").

[78] Opinion No. 569-A at P 210.

Transco-606, after removing companies with growth rates that were negative or greater than 20%,[79] the weighted average of the projections for the individual firms implies an average growth rate of 9.56%. Combining this average growth rate with a weighted average dividend yield of 1.93% results in a current cost of common equity estimate for the market as a whole (R_m) of 11.49%.

Q. Does the Commission also recognize that it is appropriate to consider Value Line growth rates in developing the market risk premium used to apply the CAPM?

A. Yes. The Commission has recognized that "diversifying data sources may better reflect the data sources that investors consider in making investment decisions."[80] Opinion No. 569-A concluded that Value Line growth rates "incorporate the input of multiple analysts" and that Value Line's growth rates "are updated on a more predictable basis," which "provides certainty about updates to key model inputs."[81]

Q. Do you agree with the Commission's proposal to consider Value Line's EPS growth projections in addition to data from IBES?

A. Yes. Value Line's growth projections provide a meaningful guide to investors' expectations. As noted earlier, Value Line is recognized as being the most widely available source of investment information that shapes the expectations of investors.[82]

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[79] My use of the growth rate screen adopted in Opinion No. 569-A should not be considered an endorsement of this approach, which is based on an incorrect notion that using the DCF model to estimate the market return requires an assumption of constant growth for each of the specific firms in the S&P 500. The S&P 500 includes a broad sample of companies at all stages of growth, and the use of all of those companies to estimate the required return on common stocks reasonably reflects investors' consensus expectations about the S&P 500 as a whole.

[80] Opinion No. 569-A at P 78.

[81] *Id.* at PP 80, 81.

[82] *See, e.g.*, Opinion No. 531 at P 102 ("We accept the *Value Line* industry classifications because *Value Line* is a widely-followed, independent investor service . . . ."); *Kern River Gas Transmission Co.*, Opinion No. 486-C, 129 FERC ¶ 61,240, at PP 50, 91 (2009) ("Because Value Line is a publication relied on by many investors, its statements concerning the relative risks of different

Value Line's detailed quarterly reports provide extensive analyses that underpin its individual EPS growth rate projections. As a result, Value Line EPS growth rates are immune from any potential errors involved in the compilation of survey data and avoid uncertainties as to the veracity of the assumptions underlying the projected values.

As the Commission noted, the reports supporting Value Line's projected EPS growth rates are updated on a scheduled basis, which avoids the potential problem of "staleness" of the underlying data. Moreover, Value Line's sole business is to provide independent and unbiased investment guidance to its subscribers. Because Value Line does not engage in securities trading or investment banking activities, there is no risk of conflicts of interest that could arguably influence growth estimates.

Evaluating IBES growth rates alongside qualified alternatives acknowledges the importance of using multiple data sources to estimate investors' growth expectations. For example, *New Regulatory Finance* endorsed a similar approach, noting that one way to assess the concern that consensus analysts' forecasts such as IBES may be biased "is to incorporate into the analysis the growth forecasts of independent research firms, such as Value Line, in addition to the analyst consensus forecast."[83]

Value Line's growth rate projections provide a sound basis on which to evaluate investors' expectations when applying the DCF model and there are many citations to Value Line in textbooks and other sources supporting its usefulness as a guide to

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energy-related investments is highly probative of the views of investors generally.") (prior and subsequent history omitted); *Sw. Pub. Serv. Co.*, 83 FERC ¶ 61,138, at 61,636 n.63 (1998) ("The Commission did not, however, intend to preclude consideration of contemporaneous growth estimates made by the various investor services companies (*e.g.*, Value Line, Zack's Investment Research, Inc. (Zack's), Institutional Brokers Estimate System (IBES)), as investors rely on these estimates in their decision-making process.").

[83] Roger A. Morin, *New Regulatory Finance*, Pub. Utils. Reports, Inc. (2006) at 300.

investors' expectations. For example, *Cost of Capital – A Practitioners' Guide*, published by the Society of Utility and Regulatory Financial Analysts, noted that:

> [A] number of studies have commented on the relative accuracy of various analysts' forecasts. Brown and Rozeff (1978) found that Value Line was superior to other forecasts. Chatfield, Hein and Moyer (1990, 438) found, further "Value Line to be more accurate than alternative forecasting methods" and that "investors place the greatest weight on the forecasts provided by Value Line."[84]

Value Line is clearly a "widely-followed, independent investor service,"[85] and Value Line's EPS growth projections provide a credible guide to investors' expectations. The use of Value Line's EPS growth projections, in conjunction with IBES, enhances the reliability of the resulting CAPM cost of equity estimates.

Q. What is the implied market rate of return based on Value Line EPS growth rates?

A. As shown on Exhibit No. Transco-608, after removing companies with growth rates that were negative or greater than 20%, the weighted average of the Value Line EPS growth projections for the individual firms implies an average growth rate of 9.67%. Combining this average growth rate with a weighted average dividend yield of 2.18% results in a current cost of common equity estimate for the market as a whole (R_m) of 11.85%.

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[84] David C. Parcell, *The Cost of Capital – A Practitioner's Guide*, Soc'y of Util. & Regulatory Fin. Analysts (2010) at 143. *See also,* Roger A. Morin, *New Regulatory Finance*, Pub. Utils. Reports, Inc. (2006) at 71.

[85] Opinion No. 531 at P 102. *See also Kern River Gas Transmission Co.*, Opinion No. 486-C, 129 FERC ¶ 61,240 at P 50 (2009) (noting that "Value Line is a publication relied on by many investors. . . .").

Q. Do you include a size adjustment in applying the CAPM?

A. Yes. Because financial research indicates that the CAPM does not fully account for observed differences in rates of return attributable to firm size, a modification is required to account for this size effect. As explained by Morningstar:

> One of the most remarkable discoveries of modern finance is the finding of a relationship between firm size and return. On average, small companies have higher returns than large ones…. The relationship between firm size and return cuts across the entire size spectrum; it is not restricted to the smallest stocks.[86]

According to the CAPM, the expected return on a security should consist of the riskless rate, plus a premium to compensate for the systematic risk of the particular security. The degree of systematic risk is represented by the beta coefficient. The need for the size adjustment arises because differences in investors' required rates of return that are related to firm size are not fully captured by beta. To account for this, my CAPM analysis incorporates an adjustment to recognize the impact of size distinctions, as measured by the market capitalization for the companies in the Electric Group.

Q. What is the basis for the size adjustment?

A. The size adjustment required in applying the CAPM is based on the finding that *after controlling for risk differences reflected in beta*, the CAPM overstates returns to companies with larger market capitalizations and understates returns for relatively smaller firms. The size adjustments utilized in my analysis are sourced from Kroll, who now publish the well-known compilation of capital market series originally developed by Professor Roger G. Ibbotson of the Yale School of Management, and most recently published by Kroll. Calculation of the size adjustments involve the following steps:

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[86] Morningstar, *2015 Ibbotson SBBI Classic Yearbook* at 99 (2015).

1. Divide all stocks traded on the NYSE, NYSE MKT, and NASDAQ indices into deciles based on their market capitalization.
2. Using the average beta value for each decile, calculate the implied excess return over the risk-free rate using the CAPM.
3. Compare the calculated excess returns based on the CAPM to the actual excess returns for each decile, with the difference being the increment of return that is related to firm size, or "size adjustment."

New Regulatory Finance observed that "small market-cap stocks experience higher returns than large market-cap stocks with equivalent betas," and concluded that "the CAPM understates the risk of smaller utilities, and a cost of equity based purely on a CAPM beta will therefore produce too low an estimate."[87] As the Commission has recognized, "[t]his type of size adjustment is a generally accepted approach to CAPM analyses."[88]

Q. What ROE range is implied for the Electric Group using the IBES-based CAPM approach?

A. As detailed on Exhibit No. Transco-605, referencing a 4.02% risk-free rate based on the six-month average yield on 30-year Treasury bonds in September 2023, the IBES-based CAPM implies a cost of equity range of 9.70% to 12.69% for the Electric Group. The median is 11.19% and the midpoint is 11.20%.

[87] Roger A. Morin, *New Regulatory Finance*, Pub. Utils. Reports, Inc. (2006) at 187.

[88] Opinion No. 531-B at P 117.

Q. What ROE range is implied for the Electric Group using the Value Line-based CAPM approach?

A. As shown on Exhibit No. Transco-607, the Value Line-based CAPM approach implies a cost of equity range of 9.95% to 13.08% for the Electric Group, with the median and midpoint both equaling 11.52%.

C. Risk Premium Approach

Q. Briefly describe the Risk Premium approach.

A. The Risk Premium approach extends the risk-return tradeoff observed with bonds to estimate investors' required rate of return on common stocks. The cost of equity is estimated by first determining the additional return investors require to forgo the relative safety of bonds and to bear the greater risks associated with common stock, and then adding this equity Risk Premium to the current yield on bonds.

Q. Is the Risk Premium approach a widely accepted method for estimating the cost of equity?

A. Yes. The Risk Premium approach is based on the fundamental risk-return principle that is central to finance. This method is routinely referenced by the investment community, by academics, and in regulatory proceedings, and provides an important tool in estimating a fair ROE.

Q. The D.C. Circuit noted in its August 2022 decision that Opinion No. 569 was critical of the Risk Premium method. Do you agree with the Commission's decision to include the Risk Premium approach in the ROE methodology adopted in Opinion No. 569-A?

A. Yes. Despite finding that the Risk Premium approach is a "market-oriented methodology" and a "traditional method[] investors may use to estimate the expected

return from an investment in a company,"[89] Opinion No. 569 advanced three primary criticisms of the Risk Premium method: 1) the Risk Premium approach is "largely redundant" with the CAPM methodology,[90] 2) that "circularity is particularly direct and acute with the Risk Premium model,"[91] and 3) that it "requires methodological decisions that would likely undermine transparency and predictability in Commission outcomes."[92] None of these rationales is justified.

Q. Are the Risk Premium and CAPM methodologies "redundant" of each other?

A. No. The Risk Premium approach is recognized as a distinct financial model that is separate and apart from the CAPM. In the recognized treatise, Principles of Public Utility Rates, Bonbright noted that "[t]he risk premium approach is probably the second most popular approach to estimating the cost of equity."[93] Similarly, the Risk Premium approach is cited as one of the preeminent cost of capital methodologies by the primary reference text prepared for the Society of Utility and Regulatory Financial Analysts,[94] as well as by *New Regulatory Finance*,[95] which the Commission has cited as an authoritative source.

Apart from the fundamental notion that investors demand a higher return for bearing greater risk, there is no overlap whatsoever in the CAPM and Risk Premium methods, which approach the task of estimating investors' required rate of return from

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[89] MISO Briefing Order at P 36 (2018).

[90] Opinion No. 569 at P 341.

[91] *Id.* at P 343.

[92] *Id.* at P 340.

[93] James C. Bonbright, Albert L. Danielsen, and David R. Kamerschen, Principles of Public Utility Rates, Pub. Utils. Reports, Inc. (1988) at 322.

[94] David C. Parcell, *The Cost of Capital – A Practitioner's Guide*, Society of Utility and Regulatory Financial Analysts (2010) at 164.

[95] Roger A. Morin, *New Regulatory Finance*, Pub. Utils. Reports, Inc. (2006) at 28, 107-130. Opinion No. 569 cited Professor Eugene Brigham, who also recognized that the Risk Premium method is typically used when estimating a company's cost of equity. Opinion No. 569 at P 218.

their own distinct premises. Not only do these methods evaluate the cost of equity from fundamentally different foundations, each approach also uses widely different inputs, none of which are congruent. The fact that the results of the CAPM and Risk Premium approaches are not equal further demonstrates that these methods are not redundant.

Q. Opinion No. 569 suggested that the Risk Premium approach is undermined by "circularity." Is this a valid concern?

A. No. The position taken in Opinion No. 569 regarding "circularity" is misplaced. In establishing authorized ROEs, regulators (including the Commission) typically consider a broad range of evidence, including the results of alternative market-based approaches, such as the DCF model. Because allowed ROEs consider market inputs and are not based strictly on past regulatory findings, this mitigates concerns over any potential for circularity. As *New Regulatory Finance* concluded:

> It is sometimes alleged that reliance on allowed risk premiums is circular. This is a dubious argument to the extent that allowed risk premiums are presumably based on objective market data (dividends, interest rates, beta, stock prices, etc.) and not strictly on the decisions of other regulators.[96]

Further, given that the Risk Premium approach is one method among others and is not being relied on solely to establish the ROE, there is no justification for the claim that consideration of the Risk Premium approach somehow results in circularity.

Moreover, given the importance of the ROE component of a utility's revenue requirements, virtually every measure of future financial performance—including cash flow measures, profitability, and dividend policies—is impacted by the ROE established by regulators. As a result, the Risk Premium approach is no more susceptible to concerns over circularity than the analysts' EPS growth rates reported by IBES. As one respected treatise observed, "[s]ince regulation establishes a level of

[96] Roger A. Morin, *New Regulatory Finance*, Pub. Utils. Reports, Inc. (2006) at 124.

authorized earnings, which in turn implicitly influences dividends per share, estimation of the growth rate from such data is an inherently circular process."[97] If analysts' growth estimates are rendered unusable because they are, in part, a function of expectations regarding future allowed ROEs, then, under the reasoning of Opinion No. 569, the DCF model must be rejected as well. This is misguided and the Commission was justified in reversing its stance in Opinion No. 569-A.

Q. Opinion No. 569 also stated that a need for "methodological decisions" justified disregarding the Risk Premium method.[98] Is this a reasonable assertion?

A. No. This observation is true of any financial model used to estimate the cost of equity (*e.g.*, source of growth rates, estimation of market risk premium) and provides no justification for ignoring an approach that has been classified among the key financial models in estimating the cost of equity. With respect to the DCF model, even after decades of use and Commission precedent, methodological issues are still commonly litigated, and the Commission continues to modify its approach. Similarly, the Commission is free to provide further guidance on the implementation of the Risk Premium method, which it undertook in Opinion No. 569-A. The Risk Premium approach is no "less predictable and transparent than other models"[99] in this respect.

Q. What changes to the Risk Premium method did the Commission direct in Opinion No. 569-A?

A. To address specific concerns regarding the implementation of the Risk Premium approach, Opinion No. 569-A directed certain refinements in its application. Specifically, the Commission:

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[97] Charles F. Phillips, Jr., *The Regulation of Public Utilities,* Pub. Utils. Reports, Inc. (1993) at 396.

[98] Opinion No. 569 at P 346.

[99] *Id.*

- developed a separate risk premium for each individual case, rather than using annual averages;[100]
- adopted the six-month period preceding the filing date of the offer of settlement as the basis for establishing the six-month average bond yield used to calculate risk premiums attributable to ROEs approved through settled proceedings;[101]
- adopted the six-month study period as the basis for establishing the six-month average bond yield used to calculate risk premiums attributable to ROEs approved through litigated proceedings;[102] and
- extended the sample period for the Risk Premium study through the conclusion of the study period, rather than the calendar year.[103]

As documented in Appendix I to Opinion No. 569-A, the Commission removed cases from the Risk Premium study where:

- the utility was merely adopting an existing ROE without consideration of whether that ROE would be determined to be just and reasonable under fresh analysis;
- the ROE was clearly not under consideration;
- there were duplicative findings from a previous case;
- the ROE was set for a definite future date, and the Commission could not have evaluated a risk premium for a future date; and
- the test period predated 2006.

More recently, in Opinion No. 569-B, the Commission corrected a limited number of typographical and other minor errors to the Risk Premium data set used in Opinion No. 569-A.[104] The Commission further refined this case set in *DATC*.[105]

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[100] Opinion No. 569-A at P 108.

[101] *Id.* at P 111.

[102] *Id.*

[103] *Id.*

[104] Opinion No. 569-B at PP 127-28, Appendix I.

[105] *DATC* at PP 126-131.

Q. Do you add any observations to the Risk Premium case set relied on by the Commission in *DATC*?

A. Yes. Apart from updating the observations to reflect ROEs approved by the Commission through June 30, 2023, I also make several corrections to the model inputs listed in *DATC*. Specifically, I identified three cases the Commission either mistakenly omitted using the criteria listed above or failed to consider altogether. These cases are listed on page 7 of Exhibit No. Transco-609.

The first of these additions was to reflect the 11.18% ROE approved by the Commission in 2008 for Public Service Electric and Gas Company in connection with that company's proposed implementation of a formula rate for transmission service.[106] This 11.18% ROE was based on a contemporaneous DCF analysis employing a six-month study period ending May 2008.[107]

The second correction reflects the addition of the 11.18% going-forward ROE for PPL Electric Utilities Corporation specified in the May 1, 2009 settlement of Docket No. ER08-1457. The settlement provided for ROEs of 11.10% and 11.14% corresponding to the periods November 1, 2008 through May 31, 2008 and June 1, 2009 through May 31, 2010, respectively, while also providing that, "On June 1 2010 and thereafter, the Base ROE shall be 11.18 percent."[108] While *DATC* includes both the 11.10% and 11.14% ROEs established in this settlement agreement, it excluded the going-forward ROE of 11.18%. As the Commission determined in Opinion No. 569-B, "Use of multiple ROEs may be appropriate where the ROEs apply to distinct

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[106] *Public Service Electric and Gas Company*, Order on Formula Rate Proposal, 124 FERC ¶ 61,303 (2008).

[107] *See* Docket No. ER08-1233, Direct Testimony of Michael J. Vilbert, Exhibit No. PEG-6 at 19-20.

[108] *PPL Electric Utils. Corp.*, Order Approving Uncontested Settlement, 128 FERC ¶ 61,178 at P 4 (2009).

periods."[109] The 11.18% ROE specificed in the settlement of Docket No. ER08-1457 is comparable to other ROEs routinely approved by the Commission for future application of formula rates, and there is no credible basis to exclude this observation.

The third addition to the *DATC* case set is necessary to include the ROE specified in the settlement approved for Xcel Energy Southwest Transmission Company, LLC ("XEST") in Docket No. ER14-2751 associated with Zone 11 under the SPP OATT. As the Commission specified in approving the settlement, "XEST will have two ROEs. One for calculating XEST's revenue requirement associated with Zone 11 under the SPP OATT (Zone 11 ROE) and one for all other purposes (General ROE.)"[110] As the Commission noted, "The Zone 11 ROE shall equal the then-effective Commission-approved ROE used to calculate the Southwestern Public Service Company's (SPS) revenue requirement pursuant to the SPP OATT,"[111] which was 10.00%.[112] While *DATC* included the "General ROE" established under XEST's settlement, it failed to include the 10.00% base ROE applicable to Zone 11 service. There is no basis to ignore this data point.[113]

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[109] Opinion No. 569-B at P 131.

[110] *See*, *Xcel Energy Southwest Trans. Co.*, Certification of Uncontested Offer of Settlement, 153 FERC ¶ 63,019 (2015).

[111] *Id.* at P 13.

[112] *Golden Spread Elec. Coop., Inc., et al.,* Order Approving Uncontested Settlement, 153 FERC ¶ 61,103 at P 13 (2015).

[113] The Commission concluded in *Pacific Gas & Elec. Co.* that approval of separate ROEs in the same order involves "unique circumstances." *Pacific Gas & Elec. Co.*, 178 FERC ¶ 61,175 at P 227 (2022). In fact, however, the Risk Premium case set includes several instances where multiple ROEs were approved in the same proceeding based on distinguishing circumstances. *See, e.g.,* Docket Nos. ER08-1457, ER10-355, and ER11-2853.

Q. Do you remove any observations from the Risk Premium case set adopted in *DATC*?

A. Yes. As shown on page 8 of Exhibit No. Transco-609, I remove the 10.02% ROE established in Opinion No. 569-A as that decision was vacated by the D.C. Circuit. I also remove a 10.05% ROE attributed to Docket No. EL15-45, which was a pancaked FPA Section 206 complaint proceeding for the MISO TOs. The Commission dismissed that complaint, and no ROE was approved or established in that proceeding. In addition, I also remove a duplicative ROE observation corresponding to Docket No. ER19-1396.

In applying the Risk Premium approach in *DATC*, the Commission also incorporated ten ROEs stemming from settlements of cases involving publicly owned entities. Revenue requirements and underlying capital costs for publicly owned utilities are primarily driven by debt service requirements, and there is no relevant equivalent to the market cost of equity for an investor-owned utility. Accordingly, ROE determinations for municipals and cooperatives should not be included in applying the Risk Premium method to estimate the ROE for investor-owned electric utilities, such as Transco.

Q. Is this critical distinction recognized by the investment community?

A. Yes. For example, S&P observed that "[c]ash available from current operating revenues to pay debt service is the principal focus" of its financial analysis of cooperative utilities.[114] As S&P concluded:

> We believe that fixed costs and imputed charge coverage best gauges a retail utility's total financial capacity. It measures the ability of the retail

[114] S&P Global Ratings, *U.S. Public Finance: Applying Key Rating Factors to U.S. Cooperative Utilities*, Criteria | Governments (Nov. 21, 2007).

> utility to service both its total debt and debt-like obligations, which together we refer to as fixed costs and imputed charges.[115]

Moody's identified the "[l]ack of a profit motive or need to generate a return on equity" as key characteristics typifying public power utilities.[116] Meanwhile, Fitch concluded that:

> Public power systems are unique from their investor-owned counterparts. In nearly all cases, public power systems operate on a not-for-profit basis and with the fundamental mission of providing safe, reliable and affordable electric service. Excess cash flow is typically retained and used to build financial cushion, fund capital investment or reduce borrowings.[117]

Similarly, the Presiding Judge in *Missouri River Energy Services* noted that:

> Municipally-owned utilities do not answer to stockholders seeking a return on their investments. They pay no dividends . . . .The governing members of municipal-owned utilities are their own customers . . . Publicly-owned utilities pay no income taxes . . . . By contrast, investor-owned utilities are profit-making and profit-maximizing private entities that strive to attain the greatest possible ROE for their shareholders. They do so in order to attract investors to their stock in the stock market . . . . In short, unlike investor-owned utilities, it is not the purpose of a municipally-owned utility to earn a profit. Quite the opposite, it is a *non*-profit institution that is set up that way in order to achieve lower rates for ratepayers.[118]

Publicly owned (cooperative or municipal) utilities do not raise equity in the capital markets and do not seek to make a profit. Consequently, ROE determinations for publicly owned electric systems provide no information relevant to a determination

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[115] S&P Global Ratings, *U.S. Municipal Retail Electric and Gas Utilities: Methodology and Assumptions* (Sep. 27, 2018).

[116] Moody's Investors Service, *U.S. Public Power Electric Utilities With Generation Ownership Exposure*, Rating Methodology (Nov. 28, 2017).

[117] Fitch Ratings, Inc., *Exposure Draft: U.S. Public Power Rating Criteria*, Public Finance (Jun. 14, 2018).

[118] *Missouri River Energy Services,* Initial Decision, 130 FERC ¶ 63,014 at PP 228-229, 231 (2010) (emphasis in original).

of a just and reasonable ROE for an investor-owned electric utility, such as Transco. Similarly, the ROE witness in Docket Nos. ER17-426 and ER17-428 (identified as *Denison* and *Vermillion* on the Commission's Risk Premium case list in *DATC*) observed that the DCF method "is not the best method to determine ROE for non-jurisdictional utilities which . . . are municipally owned, have no stock price, and issue no dividends."[119] In fact, of the ten proceedings for publicly-owned entities included by the Commission, eight failed to include a DCF study or the results of any other financial model, with the ROE request being based solely on an average of previously allowed ROEs.[120]

Q. What other adjustment do you make to the *DATC* case set?

A. The bottom panel on page 8 of Exhibit No. Transco-609 identifies one other minor correction to remove the impact of a post-record period adjustment for changes in bond yields that is necessary to match the ROE to the study period interest rate.[121] The revised inputs to the Risk Premium approach are shown on pages 2 through 5 of Exhibit No. Transco-609.

Q. What cost of equity is implied by the Risk Premium method?

A. As illustrated on page 1 of Exhibit No. Transco-609, with an average six-month historical yield on Baa public utility bonds at September 2023 of 5.80%, the Risk

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[119] *Southwest Power Pool, Inc.*, Docket No. ER17-426, Prepared Direct Testimony of James Pardikes at 11 (filed Nov. 29, 2016); *Southwest Power Pool, Inc.*, Docket No. ER17-428, Prepared Direct Testimony of James Pardikes at 11 (filed Nov. 30, 2016). In both instances, the requested ROE was based on an average of previously allowed ROEs by state regulatory commissions.

[120] This evidence contradicts the conclusion in *Pacific Gas & Elec. Co.* that there is nothing to distinguish the determination of an ROE in proceedings involving publicly owned entities and investor-owned utilities. *Pacific Gas & Elec. Co.*, 178 FERC ¶ 61,175 at P 221 (2022).

[121] The allowed ROE of 10.04% includes a 49 basis point downward adjustment that was made to reflect changes in interest rates between the study period and the date of the Commission's order. Because the Commission references the average bond yield for the six-month study period to compute the Risk Premium, this adjustment must be reversed.

Premium method implies a current equity risk premium of 4.58% for electric utilities. Adding this equity risk premium to the average six-month historical yield on Baa utility bonds implies a current cost of equity of 10.38%.

Q. How do you impute a range around this Risk Premium cost of equity estimate?

A. I impute a range around the 10.38% Risk Premium result based on the average difference between the high and low boundaries of the two-step DCF, CAPM, and Expected Earnings ranges. As shown on page 1 of Exhibit No. Transco-609, this results in an implied cost of equity range of 7.98% to 12.78%.

D. Expected Earnings Approach

Q. Please explain your Expected Earnings study.

A. Analysis of rates of return available from alternative investments of comparable risk can provide an important benchmark in assessing the return necessary for a firm to maintain financial integrity and attract capital. This approach is consistent with the economic underpinnings for a fair rate of return, as reflected in the comparable earnings test established by the Supreme Court in *Hope* and *Bluefield.* Moreover, it avoids the complexities and limitations of capital market methods and instead focuses on the returns earned on book equity, which are readily available to investors. As the Commission recognized in Opinion No. 531:

> [T]he . . . expected earnings analysis, given its close relationship to the comparable earnings standard that originated in *Hope*, and the fact that it is used by investors to estimate the ROE that a utility will earn in the future can be useful in validating our ROE Recommendation.[122]

[122] Opinion No. 531 at P 147.

Q. Did the Commission rely on the Expected Earnings approach in Opinion No. 569-A?

A. No. However, the Commission noted that "we do not necessarily foreclose its use in future proceedings," so long as concerns expressed in Opinion No. 569 and reiterated in Opinion No. 569-A are addressed.[123] Specifically, the Commission raised the following principal concerns in explaining its decision not to rely on this method:

- The Expected Earnings approach is not based on market values.
- Differences between market values and book values undermine the relevance of the Expected Earnings approach.
- There is a lack of data demonstrating that investors use the Expected Earnings approach directly to value utility common stocks.

My subsequent testimony briefly addresses the misguided nature of these concerns.

Q. Opinion No. 569-A concluded that, because investors cannot buy stock in the market at book value, the expected earnings approach should be rejected.[124] Does this finding undermine the relevance of the Expected Earnings approach?

A. No. I agree that the Expected Earnings method is not market-based in that it is not dependent directly or indirectly on stock prices or other data from the capital markets. But this does not discount its usefulness as a meaningful approach for investors and regulators to compare expected returns in one utility versus another. Specifically, it is reasonable to expect that investors compare stock investments based on securities analysts' projections of the expected return on common equity, which is analogous to the return on the equity component of a utility's rate base.

As detailed below, this comparison is relevant to investors because it directly measures the returns on book investment that the investment community expects from

[123] Opinion No. 569-A at P 132.

[124] *Id.* at PP 201, 204-205, 210, 216-217, 219, 221-222.

comparable-risk investments, without the need to make the subjective evaluations inherent in market-based models, such as how to best estimate investors' growth expectations or the market required return. Thus, it provides regulators with a meaningful guide to the return the utility should be expected to earn on its book equity investment. And given that rates are established on the basis of the book value of a utility's investment, this is a relevant measure of the ROE that is consistent with regulatory standards of comparable earnings and capital attraction established in *Hope* and *Bluefield*.

Q. Has the Expected Earnings approach been recognized as a meaningful methodology in evaluating a just and reasonable ROE?

A. Yes. The Expected Earnings approach is analogous to the comparable earnings method, which predominated before the advent of the DCF and other financial models. While the traditional comparable earnings test is often implemented using historical accounting data, it is also common to use projections of returns on book investment. Because these returns on book value equity are analogous to the allowed return on a utility's rate base, this measure of opportunity costs results in a direct, "apples-to-apples" comparison, and it has long been referenced and relied on in regulatory proceedings.[125] For example, in approving an ROE for electric utility operations, the North Carolina Utilities Commission recently concluded that:

> In prior cases, the Commission has given significant weight to the results of the Expected Earnings methodology, which stands separate and apart from the market-based methodologies (e.g., the DCF or

[125] *See, e.g.,* Nat'l Ass'n of Regulatory Util. Comm'rs, *Utility Regulatory Policy in the U.S. and Canada, 1995-1996* (Dec. 1996). The Virginia State Corporation Commission is required by statute to consider the earned returns on book value, which establish lower and upper boundaries for the allowed ROE. Virginia Code § 56-585.1.A.2.a. The Ohio Public Utilities Commission also considers prospective earned rates of return in evaluating the impact of electric security plans. Ohio R.C. 4928.143(E).

> CAPM) also used by ROE experts . . . The Commission chooses to do so again in this case.[126]

As S&P observed, "[h]istorically, there have been two approaches in calculating ROE in regulatory proceedings, a comparable earnings approach and a market analysis. In a comparable earnings approach, similar investments with similar risks are analyzed to determine an appropriate ROE."[127]

Q. Is reference to returns on book value consistent with how utility rates are evaluated?

A. Yes. Regulators do not set the returns that investors earn in the capital markets—they can only establish the allowed return on the book value of a utility's investment. The expected earnings approach provides a direct guide to ensure that the allowed ROE is similar to what other utilities of comparable risk are expected to earn on invested capital. This opportunity cost test does not require theoretical models to indirectly infer investors' perceptions from stock prices or other market data. As long as the proxy companies are similar in risk, their expected earned returns on invested capital provide a direct benchmark for investors' opportunity costs, independent of fluctuating stock prices, market-to-book ratios, debates over DCF growth rates, or theoretical assumptions about investor behavior.

A textbook prepared for the Society of Utility and Regulatory Financial Analysts concludes that the comparable earnings method is firmly anchored in the regulatory economics underlying the *Bluefield* and *Hope* cases.[128] It also notes that it

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[126] North Carolina Utilities Commission, Docket No. E-7, SUB 1187, *et al.*, *Order Accepting Stipulations, Granting Partial Rate Increase, and Requiring Customer Notice* (Mar. 31, 2021) at 94.

[127] S&P Global Market Intelligence, *The rate case process: establishing a fair return for regulated utilities*, RRA Regulatory Focus (Jun. 29, 2020).

[128] *Id.*

requires less subjective judgment to implement than either the DCF or CAPM methods.[129] *New Regulatory Finance* concluded that "because the investment base for ratemaking purposes is expressed in book value terms, a rate of return on book value, as is the case with Comparable Earnings, is highly meaningful."[130]

Q. Does the investment community reference earned returns on book value in their evaluation of electric utilities?

A. Yes. Book value accounting measures, including earned and expected returns on book equity, are instrumental to the financial analysis underpinning investors' evaluation of electric utilities, including credit ratings. S&P cited the relevance of earned returns on book value in highlighting the primary credit considerations in the utility industry, noting that "required rate of return on equity investment is closely linked to a utility company's profitability."[131] S&P indicated that "[f]or regulated utilities subject to full cost-of-service regulation and return-on-investment requirements, we normally measure profitability using ROE, the ratio of net income available for common stockholders to average common equity."[132] While recognizing that "the regulator ultimately bases its decision on an authorized ROE," S&P observed that "different factors such as variances in costs and usage may influence the return a utility is actually able to earn, and consequently our analysis of profitability for cost-of-service-based utilities centers on the utility's ability to consistently earn the authorized ROE."[133] In S&P's view, the earned return on book value may provide better insight into the

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[129] *Id.*

[130] Roger A. Morin, *New Regulatory Finance*, Pub. Utils. Reports, Inc. (2006) at 395.

[131] Standard & Poor's Corporation, *Utilities: Key Credit Factors For The Regulated Utilities Industry,* Criteria Corporates (Nov. 19, 2013).

[132] *Id.*

[133] *Id.*

financial health of the utility because it reflects the actual impact of regulation, not the theoretical outcome implied by an authorized ROE. Consistent with this paradigm, S&P examines trends in utility returns on book equity, as compared with authorized ROEs, in evaluating financial performance for the electric utility industry.[134] Similarly, in a review of financial quality measures for utilities, S&P noted that "[t]he earned return on equity . . . is one of the most widely followed measures of the industry's financial performance."[135]

Moody's also recognizes the relevance of returns on book value in its assessment of a utility's prospects. While noting that "[t]he authorized ROE is a popular focal point in many regulatory rate case proceedings," Moody's recognized that "earned ROEs, as reported by utilities and adjusted by Moody's," are a key gauge of financial performance.[136] As Moody's concluded, "utilities are closer to earning their authorized equity returns, which is positive from an equity market valuation perspective."[137] In explaining its scorecard analysis for a Baa-rated utility, Moody's Investors' Service noted that regulatory outcomes should be "sufficient to attract capital without difficulty," and that this "will translate to returns (measured in relation to equity, total assets, rate base, or regulatory asset value, as applicable) that are average relative to global peers."[138]

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[134] *See, e.g.,* S&P, *Utility-earned ROEs exceeded authorized since 2016, but 2019 may not match 2018*, Financial Focus (Jun. 10, 2019).

[135] S&P Global Market Intelligence, *Utility operating company financials mixed: ROE slips*, Financial Focus (Dec. 11, 2019).

[136] Moody's, *Lower Authorized Equity Returns Will Not Hurt Near-Term Credit Profiles*, Sector In-Depth (Mar. 10, 2015).

[137] *Id*.

[138] Moody's, *Regulated Electric and Gas Utilities,* Rating Methodology (Jun. 23, 2017).

Q. Do Opinion Nos. 569 or 569-A undermine the relevance of this evidence?

A. No. The Commission examined some of this evidence in Opinion No. 569 but, nevertheless, suggested that investors "may not" use the information from the Expected Earnings analysis to inform their investment decisions.[139] But these investment services would not provide this information if investors did not rely upon it to inform their decisions. The Commission also posited that investors may not use this information specifically to "determine the applicable cost of capital,"[140] but this again hinges on the notion that only market-based evidence is relevant in evaluating a just and reasonable ROE.

Q. What other evidence supports a finding that returns on book value influence investors' valuation decisions?

A. In addition to the materials cited above, a research paper by Dr. Aswath Damodaran emphasized the importance of considering returns on book value in evaluating performance and alternative investments.[141] Contradicting Opinion No. 569's conclusion that returns on book value are unrelated to an evaluation of investors' expected return on investment,[142] Dr. Damodaran noted that, "[w]hile returns on equity and capital are based upon accounting earnings and capital, and are designed to measure the quality of a firm's existing investments, they are correlated with returns you would make investing in the publicly traded equity of the firm."[143]

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[139] Opinion No. 569 at P 212.

[140] *Id.* at P 217.

[141] Aswath Damodaran, *Return on Capital (ROC), Return on Invested Capital (ROIC) and Return on Equity (ROE): Measurement and Implications*, New York University, Stern School of Business (July 2007).

[142] Opinion No. 569 at PP 204-205.

[143] Damodaran, *supra* n.133 at 49.

As Dr. Damodaran stated, "we can safely conclude that the key number in a valuation is not the cost of capital that we assign a firm but the return earned on capital that we attribute to it."[144] This is exactly what the Expected Earnings method seeks to measure. If the allowed ROE is insufficient to provide a return on the book value of a utility's investment as compared with what investors expect other utilities of comparable risk to earn, the utility's ability to compete for capital will be undermined. The Expected Earnings approach provides a measure of this necessary return as one component of the evaluation of a just and reasonable ROE.

Q. What other considerations support reference to returns on book value, as a complement to market-based methods?

A. Opinion No. 569 contends that because investors can only purchase common stocks at market value, expected returns on book value are irrelevant unless the market-to-book ratio is equal to 1.0.[145] However, this ignores the fact that existing shareholders are continuously investing in a firm's equity *at book value* every time earnings are retained for reinvestment, rather than being paid as dividends. Retained earnings are reflected on the balance sheet as an increase in the book value of shareholders' equity. When a firm retains that portion of earnings not paid out as common dividends, its shareholders effectively invest in the firm's equity, and those investments are made at book value.

Moreover, as the Commission has recognized, in most instances "the public utility companies for which the Commission sets rates are not publicly traded and thus do not have any market-determined stock values."[146] This was the case in the Supreme Court's *Hope* decision, where the financial integrity standards were directly related to the book value of a utility's equity and expected earnings. Similarly, one key gauge of

[144] *Id.* at 6.

[145] Opinion No. 569 at P 201.

[146] *Id.* at P 208.

a utility's financial integrity is credit metrics, which depend on the book value of equity and earnings on that book value of investment. The Expected Earnings method is directly related to ensuring that the standards underlying a just and reasonable ROE are met.

Q. Does a difference between book and market values also raise concerns for market-based methods?

A. Yes. Differences between market realities and the theoretical constructs underlying market-based methods support the use, rather than rejection, of the Expected Earnings approach. As one researcher summarized in the early days before the DCF became a regulatory mainstay:

> We conclude that the [DCF] formula is logically incorrect for public utility regulation whenever stocks are selling at a price in excess of their book equity per share. . . . Although it purports to satisfy investor expectations, it is in fact designed to defeat the expectations of any investor who pays a market price in excess of book. It satisfies the expectations only of the investor who buys at book and expects market prices to remain at book.[147]

This is not to say that the DCF model is not a useful methodology when considered along with other methods. But as this discussion makes clear, arguments based on "truisms" inherent in the mathematical tautology of DCF theory do not support abandoning the Expected Earnings approach, which focuses on the projected earned returns on book equity supporting the investors' expectations underlying the market price of the stock.

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[147] Walter A. Morton, *The Investor Capitalization Theory of the Cost of Equity Capital*, Land Econ. 248-63 (Aug. 1970).

Q. Opinion No. 569 presents a numerical example purporting to illustrate that expected book returns are not germane to the evaluation of a just and reasonable ROE.[148] Is that example persuasive?

A. No. Opinion No. 569 posits a comparison between two firms, both with a book value of $100 and an expected return on book value of 10%, but with the market price of the companies' stocks being $20 (Firm A) and $40 (Firm B), respectively. The problem with the example is that the assumptions are completely divorced from reality for electric utilities. For example, based on a stock price of $20, the illustration implies a market-to-book ratio of 0.25 times ($20/$100) and a price/earnings multiple of 2.0 ($20/$10), versus comparable averages for the electric utilities covered by Value Line on the order of 1.94 and 21.0, respectively.[149] Under an approach where assumptions are simply contrived to "demonstrate" a hypothesis, Opinion No. 569 could have just as easily "invalidated" the DCF model.

For example, extending the illustration to assume that each firm pays a dividend of $1.00 and both are expected to grow at 5%, the DCF cost of equity for Firm A would be 10%, versus only 5% for Firm B. Because the Opinion No. 569 example implicitly presumes that both stocks are of equal risk,[150] the differential between the implied DCF cost of equity estimates makes no sense. As with Opinion No. 569's contrived assumptions, the problem is with the example, not the underlying model.

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[148] Opinion No. 569 at P 205.

[149] www.valueline.com (Oct. 15, 2021).

[150] This is unstated in Opinion No. 569, but without this assumption, the difference in stock prices between Firm A and Firm B is easily explained. If the risks of Firm A are considerably higher than those of Firm B, the price investors are willing to pay to receive the same expected stream of cash flows will be significantly lower.

Q. Opinion No. 569 also asserted that reliance on data from Value Line undermines the reliability of the Expected Earnings approach.[151] Is this consistent with the underlying facts?

A. No. The Commission reversed this finding in Opinion No. 569-A, concluding that Value Line's projections "incorporate the input of multiple analysts."[152] The Commission also concluded that considering Value Line projections "may better reflect the data sources that investors consider in making investor decisions."[153] This provides additional support for the relevance of the Expected Earnings approach in evaluating investors' expectations and requirements.

Q. Opinion No. 569-A suggested that the relative amount of common equity or accumulated depreciation on a utility's balance sheet could distort the results of the Expected Earnings approach.[154] Is this accurate?

A. No. The absolute amount of equity in a utility's capital structure, or the fact that a utility may have a higher or lower equity ratio, does not lead to an "illogical result" under the Expected Earnings approach, as Opinion No. 569 posits. The Expected Earnings method is based on the ratio of earnings available to common stockholders to the outstanding balance of common equity investment. While a higher equity ratio would imply that the numerator would be higher relative to a utility with a lower equity ratio, the denominator would also increase. In other words, assuming a constant

[151] Opinion No. 569 at P 225.

[152] Opinion No. 569-A at P 80.

[153] *Id.* at P 78.

[154] Opinion No. 569-A at P 131 (citing Opinion No. 569 at P 223).

allowed ROE, differences in equity ratios between one utility and another would have no impact at all on the resulting earned return on book value.[155]

Opinion No. 569's contention that the degree to which a utility's plant in service is depreciated on its books would distort the Expected Earnings results is equally misguided. Consider the simple example in the table below, which assumes that the only difference between the two utilities is the relative age of their respective utility systems and the degree to which their plant investment is depreciated.

TABLE TRANSCO-4
IMPACT OF DEPRECIATION

	Utility A	Utility B
Plant	$1,000	$1,000
Accumulated Depreciation	$ 800	$ 100
Net Plant	$ 200	$ 900
Equity Ratio	50%	50%
Common Equity	$ 100	$ 450
ROE	10%	10%
Equity Return	$ 10	$ 45

This example shows that, just as with the utility's equity ratio, the degree to which the utility's plant is depreciated affects the amount of common equity investment that earns at the allowed ROE. However, the ratio of equity return to book common

[155] Consider two utilities, both with a rate base of $1,000 and an authorized ROE of 10%. If Utility A's common equity ratio were 60%, the Expected Earnings result would be calculated as ($1,000 x 60% x 10%) / ($1,000 x 60%) = 10%. For Utility B with a common equity ratio of 40%, the Expected Earnings result would be calculated as ($1,000 x 40% x 10%) / ($1,000 x 40%) = 10%. To the extent that the risk associated with Utility B's greater financial leverage were found to justify a ROE higher than that of Utility A, Utility B's Expected Earnings result would also be higher.

equity is the same in both cases (i.e., $10/$100 = 10% = $45/$450 = 10%). There are no "illogical results" in either instance.[156]

Q. What other primary misconception underlies the rejection of the Expected Earnings approach in Opinion Nos. 569 and 569-A?

A. Opinion No. 569-A argues that the Expected Earnings method should be excluded because of a lack of evidence "that investors use such data to directly value equities, determine the cost of equity, or make investment decisions."[157] Similarly, Opinion No. 569 concluded that "there is insufficient record evidence to demonstrate that investors rely on the Expected Earnings model," or that investors "use the Expected Earnings model to determine their required returns on investments in public utilities."[158]

Q. Does this line of argument support excluding the Expected Earnings approach?

A. No. As my testimony demonstrates, returns on book value are a key consideration in evaluating investment alternatives, particularly in the regulated sector where book values play a fundamental role in establishing future earnings and cash flows. But in any event, the merit of any specific financial model is not premised on whether individual investors rely directly on that method to "determine their required returns" or "to inform their investment decisions."[159] In fact, it is precisely because it is

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[156] Further, Opinion No. 569's suggestion (P 224) that the relative age of a utility's plant alone can be viewed as a key determinant of its risk is incorrect. Risk is a function of numerous factors that might affect the investors' ability to earn a fair ROE. While the relative age of a utility's facilities might arguably be a consideration, it is just as likely that older facilities could be viewed as riskier due to the presumptively greater potential for unplanned outages or catastrophic failure.

[157] Opinion No. 569-A at P 126.

[158] Opinion No. 569 at PP 210, 213. Similarly, Opinion No. 569 also concluded that there is "insufficient evidence that investors rely on risk premium analyses utilizing historic Commission ROE determinations or settlement approvals to determine the cost of capital and make investment decisions." Opinion No. 569 at P 345. My discussion applies equally to the fallacy of this contention as well.

[159] *See, e.g.,* Opinion No. 569 at PP 212, 213.

impossible to know the valuation process that gives rise to investors' opportunity costs that such methods have been developed.

Consider the DCF model or the CAPM approach, for example. While each of these methodologies is premised on widely accepted theoretical concepts, there is no evidence to support a finding that either the DCF or the CAPM is used directly by investors in establishing observable stock prices or other "market-based" parameters. In fact, approximately 60% to 75% of all trading on U.S. stock exchanges is generated by automatic trading systems. Under the logic expounded by Opinion Nos. 569 and 569-A, the DCF or CAPM approaches could be rejected because of insufficient proof that the algorithms underlying such automated trading systems rely on these methods.

It is because we cannot determine the process by which investors arrive at their required return that theoretical models of investor behavior have been developed. Just as with the DCF and CAPM, the Expected Earnings approach provides a sound basis to consider and represent an unobservable artifact of investors' decision-making (*i.e.*, their required ROE). But the relevance of the model is not tied to the assumption that any individual investor actually depends on that specific approach, much less on the Commission's preferred application of each methodology.[160]

Product marketing provides a similar example of this principle. Companies invest heavily to develop models of consumer behavior as a means to guide product development, marketing, and promotional campaigns. The goal of these efforts is to better understand the process underlying consumer choice, including product attributes

[160] If such a requirement were governing, the Commission would be forced to jettison its continued reference to GDP growth in applying the DCF model. In contrast to the evidence I have presented to demonstrate the relevance of earned returns to investors' evaluation of electric utilities, there is no support for the notion that investors use GDP growth rates "to determine the cost of capital of utilities or to calculate return on an investment." Opinion No. 569 at P 216. Accordingly, by the Commission's reasoning, its own two-stage DCF model "does not reflect how an investor would make an investment decision." *Id.* at P 217.

and pricing considerations that ultimately drive purchasing decisions. Just as with the marginal investor's willingness to provide capital through the purchase of common stock, the exact process by which consumers arrive at a decision to exchange their hard-earned money for a particular good is unobservable. The relevance of behavioral models is not contingent on the idea that consumers themselves use such models when making purchasing decisions. Similarly, the value of the Expected Earnings method—like the DCF and CAPM approaches—is not contingent on a demonstration that investors' behavior is premised on this analysis.

The purpose of all ROE models is to better understand investor return requirements, and those requirements cannot be directly observed. While real world investors might not apply the models in exactly the same way as theory dictates, the inputs to the models (*e.g.*, beta, growth rates, dividend yields, forecasted book returns) are widely published in investment advisory reports discussing utility stocks and industry prospects. Given the importance of both expected earnings and book value investment for utility investors, and the direct link to the *Hope* and *Bluefield* regulatory standards, the Expected Earnings approach provides a useful perspective in evaluating a just and reasonable ROE.

Q. Do current conditions in the economy and capital markets provide additional support for alternatives to the DCF and CAPM approaches?

A. Yes. Since the onset of the COVID-19 pandemic and military conflict in Ukraine, investors have confronted heightened market volatility and uncertainty. At the same time, the Federal Reserve is in the midst of a sharp reversal of its monetary policy stance to aggressively respond to levels of price inflation not seen in 40 years. Such tumultuous and highly aberrant conditions violate the general assumptions of market equilibrium and stability underlying market-based financial models. The Risk

Premium and Expected Earnings approaches are largely insulated from such concerns and including them in the set of ROE models used by the Commission helps to ensure that the *Hope* and *Bluefield* standards are met.

Q. What ROEs are indicated for electric utilities based on the Expected Earnings approach?

A. The year-end returns on common equity projected by Value Line over its forecast horizon for each of the utilities in the proxy group are shown on Exhibit No. Transco-610. In *Southern California Edison Co.*, the Commission correctly recognized that, if the rate of return were based on year-end book values, such as those reported by Value Line, it would understate actual returns because of growth in common equity over the year.[161] Accordingly, consistent with the Commission's findings and the theory underlying this approach, I made an adjustment to compute an average rate of return.[162]

As shown on Exhibit No. Transco-610, Value Line's projections for the Electric Group resulted in a range of expected rates of return from 7.67% to 15.15%. The median and midpoint values are 10.31% and 11.41%, respectively.

VI. LOW-RISK NON-UTILITY DCF MODEL

Q. What other ROE benchmark do you consider in evaluating a just and reasonable base ROE for Transco?

A. Consistent with underlying economic and regulatory standards, I also apply the constant growth DCF model to a select group of low-risk companies in the non-utility sectors of the economy. I refer to this group as the "Non-Utility Group."

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[161] *So. Cal. Edison Co.*, 92 FERC ¶ 61,070 at 61,263 & n. 38 (2000).

[162] Use of an average return in developing the rate of return is well supported. *See, e.g.*, Roger A. Morin, *New Regulatory Finance*, Pub. Utils. Reports, Inc. (2006) at 305-06, which discusses the need to adjust Value Line's end-of-year data, consistent with the Commission's prior findings.

Q. Has the Commission acknowledged the potential relevance of evidence beyond the results of any particular set of financial models?

A. Yes. The Commission has noted that the ultimate determination of a just and reasonable end result depends "on the particular circumstances of the case," and noted that a broad range of additional evidence may be pertinent in evaluating investors' required return.[163] Observing that "any methodology has the potential for errors or inaccuracies,"[164] the Commission has concluded that "[t]here is significant evidence indicating that combining estimates from different models is more accurate than relying on a single model."[165] There is no sound reason why such evidence would not be equally relevant in evaluating a just and reasonable base ROE for Transco.

Q. Why do you include a DCF analysis for this non-utility group?

A. The primary reason I have examined DCF results for this Non-Utility Group is that utilities, such as Transco, need to compete with non-regulated firms for capital. The cost of capital is an opportunity cost based on the returns that investors could realize by putting their money in other alternatives. The total capital invested in utility stocks is only a small fraction of total common stock investment and there is a wide range of other alternatives available to investors. Utilities must compete for capital, not just against firms in their own industry, but with other investment opportunities of comparable risk.[166] This understanding is consistent with modern portfolio theory,

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[163] Opinion No. 569 at P 68 (footnote omitted); Opinion No. 569-A at P 175 (footnote omitted). For example, the Commission noted that evidence concerning "ROEs of non-utility companies, . . . non-utility stock prices, [and] investor expectations for non-utility stocks" may be relevant. Opinion No. 569 at P 522; Opinion No. 569-A at P 217.

[164] Opinion No. 569 at P 38.

[165] *Id.*

[166] Even for a single utility, capital will be allocated between competing uses in part based on opportunity costs. Where the utility has no regulatory obligation to undertake a particular project, an anemic return may foreclose investment altogether.

which is built on the assumption that rational investors will hold a diverse portfolio of stocks and not just companies in a single industry.

Q. Is it consistent with the *Bluefield* and *Hope* cases to consider investors' required ROE for non-utility companies?

A. Yes. The cost of equity capital in the competitive sector of the economy forms the very underpinning for utility ROEs because regulation purports to serve as a substitute for the actions of competitive markets. The Supreme Court has recognized that it is the degree of risk, not the nature of the business, which is relevant in evaluating an allowed ROE for a utility. The *Bluefield* case refers to "business undertakings attended with comparable risks and uncertainties." It does not restrict consideration to other utilities. Similarly, the *Hope* case states that, "the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks."[167] As in the *Bluefield* decision, there is nothing to restrict "other enterprises" solely to the utility industry.

Q. Has the Commission acknowledged the potential relevance of investors' required returns for firms in the competitive sector?

A. Yes. The Commission has noted that utilities "must compete for capital with other utilities (*and companies in other sectors*) throughout the nation."[168] Opinion No. 569-A noted that "evidence regarding non-utility stock prices . . . [and] investor expectations for non-utility stocks" could influence its evaluation of a just and reasonable ROE for electric utilities.[169] Similarly, the Commission noted that evidence concerning "ROEs of non-utility companies, . . . non-utility stock prices, [and] investor expectations for

[167] *Hope*, 320 U.S. at 603.

[168] Opinion No. 531 at P 96 (emphasis added).

[169] Opinion No. 569-A at P 175.

non-utility stocks" could be considered in tandem with results for a proxy group of electric utilities.[170] The Commission made this statement in the context of applying the first prong of Section 206 of the FPA, *i.e.*, whether a utility's existing ROE remains just and reasonable. There is no sound reason why expected returns on non-utility stocks would not be equally relevant to whether a utility's proposed ROE in a Section 205 rate change is just and reasonable.

Investors have many investment opportunities for their capital and electric utilities must compete for funds with firms outside their own industry. The investment community has recognized the interrelationship between ROEs for FERC-jurisdictional utilities and other regulated utility sectors in the allocation of capital. For example, Wolfe Research has noted that lower ROEs at the Commission could cause investors to divert capital to "other industries generally."[171] This was affirmed by Bank of America Merrill Lynch, which highlighted the fact that unsupportive ROE determinations could "result in a shift away of capital to other businesses."[172]

Q. Does consideration of the results for the Non-Utility Group improve the reliability of DCF results?

A. Yes. Growth estimates used in the DCF model depend on analysts' forecasts. It is possible for utility growth rates to be distorted by short-term trends in the industry, or by the industry falling into favor or disfavor by analysts. Such distortions could result in biased DCF estimates for utilities. Because the Non-Utility Group includes low risk

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[170] Opinion No. 569 at P 522.

[171] Wolfe Research, *FERConomics: Risk to transmission base ROEs in focus*, Utils. & Power (Jun. 11, 2013) at 11.

[172] Bank of America Merrill Lynch, *Where is FERC? ROE Transmission Challenges on First Street*, Industry Overview (Dec. 5, 2019), https://www.offshorewindadvisory.com/wp-content/uploads/2020/01/191205-BAML-MISO-ROE-Order.pdf.

companies from many industries, it diversifies away any distortion related to a particular sector.

Q. What criteria do you apply to develop the Non-Utility Group?

A. My comparable risk proxy group was composed of those United States companies followed by Value Line that:

1) pay common dividends;

2) have a Safety Rank of "1";

3) have a Financial Strength Rating of "A" or greater;

4) have a beta of 0.95 or less; and

5) have investment grade credit ratings from S&P and Moody's.

Q. How do you evaluate the risks of the Non-Utility Group relative to your proxy group of electric utilities?

A. My evaluation of relative risk considers five published benchmarks that are widely relied on by investors—credit ratings from Moody's and S&P, along with Value Line's Safety Rank, Financial Strength Rating, and beta values. Value Line's primary risk indicator is its Safety Rank, which ranges from "1" (Safest) to "5" (Riskiest). This overall risk measure is intended to capture the total risk of a stock, and incorporates elements of stock price stability and financial strength. The Financial Strength Rating is designed as a guide to overall financial strength and creditworthiness, with the key inputs including financial leverage, business volatility measures, and company size. Value Line's Financial Strength Ratings range from "A++" (strongest) down to "C" (weakest) in nine steps. Value Line is one of the most widely available sources of investment advisory information and these objective, published indicators provide useful guidance regarding the risk perceptions of investors. As noted earlier, beta measures a utility's stock price volatility relative to the market as a whole, and reflects

the tendency of a stock's price to follow changes in the market. A stock that tends to respond less to market movements has a beta less than 1.00, while stocks that tend to move more than the market have betas greater than 1.00. Beta is the only relevant measure of investment risk under modern capital market theory, and is widely cited in academics and in the investment industry as a guide to investors' risk perceptions.

Q. How do the overall risks of this non-utility group compare with the Electric Group?

A. Table Transco-5 compares the Non-Utility Group with my electric utility proxy group across the five indicators of investment risk discussed above:

TABLE TRANSCO-5
COMPARISON OF RISK INDICATORS

	Credit Rating		Value Line		
			Safety	Financial	
Proxy Group	S&P	Moody's	Rank	Strength	Beta
Non-Utility Group	A	A2	1	A+	0.80
Electric Group	BBB+	Baa2	2	A	0.90

As shown above, the risk indicators for the Non-Utility Group suggest less risk than for the Electric Group.

The companies that make up the Non-Utility Group are representative of the pinnacle of corporate America. These firms, which include household names such as General Mills, Procter & Gamble, and Walmart, have long corporate histories, well-established track records, and exceedingly conservative risk profiles. Many of these companies pay dividends on par with utilities, with the average dividend yield for the group being 2.0%. Moreover, because of their significance and name recognition, these companies receive intense scrutiny by the investment community, which increases confidence that published growth estimates are representative of the consensus expectations reflected in common stock prices.

Q. What are the results of your constant growth DCF analysis for the Non-Utility Group?

A. As shown on Exhibit No. Transco-612, I calculated the dividend yield component of the DCF model in exactly the same manner described earlier for the Electric Group. With respect to growth, my application of the DCF model to the Non-Utility Group relied on projected EPS growth rates from IBES, Value Line, and Zacks. As indicated on pages 1-3 of Exhibit No. Transco-612, my DCF analyses for the Non-Utility Group resulted in median cost of equity estimates ranging from 10.55% to 11.08%, with the midpoint values ranging from 10.74% to 11.51%.

Q. Does this conclude your testimony?

A. Yes, it does.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

New York Transco, LLC	)	**Docket No. ER24-___-000**

DECLARATION OF ADRIEN M. MCKENZIE

I depose and state under penalty of perjury that the foregoing testimony was prepared or assembled by me or under my direction, and that I have read the questions and answers labeled as my testimony; that if asked the same questions, my answers in response would be as shown; and that the facts contained in my answers are true to the best of my knowledge, information, and belief.

Executed on October 17, 2023

/s/ Adrien M. McKenzie
Adrien M. McKenzie

Exhibit No. TRANSCO-601

EXHIBIT NO. TRANSCO-601

QUALIFICATIONS OF ADRIEN M. MCKENZIE

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Adrien M. McKenzie. My business address is 3907 Red River Street, Austin, Texas 78751.

Q. PLEASE STATE YOUR OCCUPATION.

A. I am a principal in FINCAP, Inc., a firm engaged primarily in financial, economic, and policy consulting in the field of public utility regulation.

Q. PLEASE DESCRIBE YOUR QUALIFICATIONS AND EXPERIENCE.

A. I received B.A. and M.B.A. degrees with a major in finance from The University of Texas at Austin and hold the Chartered Financial Analyst (CFA®) designation. Since joining FINCAP in 1984, I have participated in consulting assignments involving a broad range of economic and financial issues, including cost of capital, cost of service, rate design, economic damages, and business valuation. I have extensive experience in economic and financial analysis for regulated industries, and in preparing and supporting expert witness testimony before courts, regulatory agencies, and legislative committees throughout the U.S. and Canada. I have personally sponsored direct and rebuttal testimony in approximately 200 proceedings filed with the Federal Energy Regulatory Commission ("FERC") and regulatory agencies in Alaska, Arkansas, Colorado, District of Columbia, Hawaii, Idaho, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Michigan, Montana, Nebraska, New Mexico, Ohio, Oklahoma, Oregon, South Dakota, Texas, Virginia, Washington, West Virginia, and Wyoming. My testimony addressed the establishment of risk-comparable proxy groups, the application of alternative quantitative

methods, and the consideration of regulatory standards and policy objectives in establishing a fair rate of return on equity for regulated electric, gas, and water utility operations. In connection with these assignments, my responsibilities have included critically evaluating the positions of other parties and preparation of rebuttal testimony, representing clients in settlement negotiations and hearings, and assisting in the preparation of legal briefs.

FINCAP was formed in 1979 as an economic and financial consulting firm serving clients in both the regulated and competitive sectors. FINCAP conducts assignments ranging from broad qualitative analyses and policy consulting to technical analyses and research. The firm's experience is in the areas of public utilities, valuation of closely-held businesses, and economic evaluations (e.g., damage and cost/benefit analyses). Prior to joining FINCAP, I was employed by an oil and gas firm and was responsible for operations and accounting. I am a member of the CFA Institute. A resume containing the details of my qualifications and experience is attached below.

ADRIEN M. McKENZIE

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Economic and Financial Counsel

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Summary of Qualifications

Adrien McKenzie has an MBA in finance from the University of Texas at Austin and holds the Chartered Financial Analyst (CFA®) designation. He has over 30 years of experience in economic and financial analysis for regulated industries, and in preparing and supporting expert witness testimony before courts, regulatory agencies, and legislative committees throughout the U.S. and Canada. Assignments have included a broad range of economic and financial issues, including cost of capital, cost of service, rate design, economic damages, and business valuation.

Employment

President FINCAP, Inc. (June 1984 to June 1987) (April 1988 to present)	Economic consulting firm specializing in regulated industries and valuation of closely-held businesses. Assignments have involved electric, gas, telecommunication, and water/sewer utilities, with clients including utilities, consumer groups, municipalities, regulatory agencies, and cogenerators. Areas of participation have included rate of return, revenue requirements, rate design, tariff analysis, avoided cost, forecasting, and negotiations. Develop cost of capital analyses using alternative market models for electric, gas, and telephone utilities. Prepare pre-filed direct and rebuttal testimony, participate in settlement negotiations, respond to interrogatories, evaluate opposition testimony, and assist in the areas of cross-examination and the preparations of legal briefs. Other assignments have involved preparation of technical reports, valuations, estimation of damages, industry studies, and various economic analyses in support of litigation.
Manager, McKenzie Energy Company (Jan. 1981 to May. 1984)	Responsible for operations and accounting for firm engaged in the management of working interests in oil and gas properties.

Education

M.B.A., Finance, University of Texas at Austin (Sep. 1982 to May. 1984)	Program included coursework in corporate finance, accounting, financial modeling, and statistics. Received Dean's Award for Academic Excellence and Good Neighbor Scholarship. Professional Report: *The Impact of Construction Expenditures on Investor-Owned Electric Utilities*
B.B.A., Finance, University of Texas at Austin (Jan. 1981 to May 1982)	Electives included capital market theory, portfolio management, and international economics and finance. Elected to Beta Gamma Sigma business honor society. Dean's List 1981-1982.
Simon Fraser University, Vancouver, Canada and University of Hawaii at Manoa, Honolulu, Hawaii (Jan. 1979 to Dec 1980)	Coursework in accounting, finance, economics, and liberal arts.

Professional Associations

Received Chartered Financial Analyst (CFA®) designation in 1990.

Member – CFA Institute.

Bibliography

"A Profile of State Regulatory Commissions," A Special Report by the Electricity Consumers Resource Council (ELCON), Summer 1991.

"The Impact of Regulatory Climate on Utility Capital Costs: An Alternative Test," with Bruce H. Fairchild, *Public Utilities Fortnightly* (May 25, 1989).

Presentations

"ROE at FERC: Issues and Methods," *Expert Briefing on Parallels in ROE Issues between AER, ERA, and FERC,* Jones Day (Sydney, Melbourne, and Perth, Australia) (April 15, 2014).

Cost of Capital Working Group eforum, Edison Electric Institute (April 24, 2012).

"Cost-of-Service Studies and Rate Design," General Management of Electric Utilities (A Training Program for Electric Utility Managers from Developing Countries), Austin, Texas (October 1989 and November 1990 and 1991).

Representative Assignments

Mr. McKenzie has prepared and sponsored prefiled testimony submitted in over 150 regulatory proceedings. In addition to filings before regulatory agencies in Alaska, Arkansas, Colorado, Hawaii, Idaho, Indiana, Iowa, Kansas, Kentucky, Maryland, Michigan, Montana, Nebraska, New Mexico, Ohio, Oklahoma, Oregon, South Dakota, Texas, Virginia, Washington, West Virginia, and Wyoming, Mr. McKenzie has considerable expertise in preparing expert analyses and testimony before the Federal Energy Regulatory Commission ("FERC") on the issue of rate of return on equity ("ROE"), and has broad experience in applying and evaluating the results of quantitative methods to estimate a fair ROE. Other representative assignments have included developing cost of service and cost allocation studies, the application of econometric models to analyze the impact of anti-competitive behavior and estimate lost profits; development of explanatory models for nuclear plant capital costs in connection with prudency reviews; and the analysis of avoided cost pricing for cogenerated power.

Exhibit No. TRANSCO-602

ELECTRIC GROUP

	Company	SYM	(a) S&P Corporate Rating	(b) Moody's Long-term Rating	(c) Value Line Safety Rank	(c) Value Line Financial Strength	Beta	(c) Market Cap ($M)
1	Algonquin Pwr & Util	AQN	BBB	NR	n/a	n/a	0.90	$3,902
2	ALLETE	ALE	BBB	Baa1	2	A	0.90	$3,200
3	Alliant Energy	LNT	A-	Baa2	2	A	0.85	$12,800
4	Ameren Corp.	AEE	BBB+	Baa1	1	A	0.85	$21,100
5	American Elec Pwr	AEP	A-	Baa2	1	A+	0.80	$40,800
6	Avista Corp.	AVA	BBB	Baa2	2	B++	0.90	$2,800
7	Black Hills Corp.	BKH	BBB+	Baa2	2	A	1.00	$3,800
8	CenterPoint Energy	CNP	BBB+	Baa2	3	B++	1.10	$17,800
9	CMS Energy Corp.	CMS	BBB+	Baa2	2	A	0.80	$16,600
10	Consolidated Edison	ED	A-	Baa2	1	A+	0.80	$35,200
11	Dominion Energy	D	BBB+	Baa2	2	B++	0.85	$47,700
12	DTE Energy Co.	DTE	BBB+	Baa2	2	A	0.95	$21,600
13	Duke Energy Corp.	DUK	BBB+	Baa2	2	A	0.85	$76,200
14	Edison International	EIX	BBB	Baa2	3	B++	0.95	$26,200
15	Emera Inc.	EMA	BBB	Baa3	2	B++	0.70	$13,900
16	Entergy Corp.	ETR	BBB+	Baa2	2	B++	0.95	$20,200
17	Evergy Inc.	EVRG	A-	Baa2	2	B++	0.90	$13,000
18	Eversource Energy	ES	A-	Baa1	2	A	0.90	$27,100
19	Exelon Corp.	EXC	BBB+	Baa2	2	B++	n/a	$42,900
20	Fortis Inc.	FTS	A-	Baa3	2	B++	0.70	$25,900
21	IDACORP, Inc.	IDA	BBB	Baa2	1	A+	0.80	$5,200
22	NextEra Energy, Inc.	NEE	A-	Baa1	1	A+	0.95	$155,400
23	NorthWestern Corp.	NWE	BBB	Baa2	2	B++	0.95	$3,400
24	OGE Energy Corp.	OGE	BBB+	Baa1	2	A	1.05	$6,800
25	Otter Tail Corp.	OTTR	BBB	Baa2	2	A	0.90	$3,500
26	Pinnacle West Capital	PNW	BBB+	Baa1	2	A	0.90	$9,200
27	PPL Corp.	PPL	A-	Baa1	3	B++	1.10	$21,200
28	Pub Sv Enterprise Grp.	PEG	BBB+	Baa2	1	A++	0.95	$31,500
29	Sempra Energy	SRE	BBB+	Baa2	2	A	1.00	$45,500
30	Southern Company	SO	BBB+	Baa2	2	A	0.90	$80,800
31	WEC Energy Group	WEC	A-	Baa1	1	A+	0.80	$26,900
32	Xcel Energy Inc.	XEL	A-	Baa1	1	A+	0.85	$34,500
			BBB+	**Baa2**	**2**	**A**	**0.90**	**$28,019**

(a) Issuer credit rating from www.standardandpoors.com (retrieved Oct.. 4, 2023).
(b) Long-term rating from www.moodys.com (retrieved Oct. 4, 2023).
(c) The Value Line Investment Survey (Jul. 21, Aug. 11 and Sep. 8, 2023).

Exhibit No. TRANSCO-603

SUMMARY OF RESULTS **Exhibit No. Transco-603**

ELECTRIC GROUP

Method	**Range**	**Median**	**Midpoint**
Two-Step DCF	8.23% -- 12.10%	9.58%	10.17%
CAPM			
IBES	9.70% -- 12.69%	11.19%	11.20%
Value Line	9.95% -- 13.08%	11.52%	11.52%
Average	9.83% -- 12.89%	11.36%	11.36%
Risk Premium	7.98% -- 12.78%	10.38%	10.38%
Expected Earnings	7.67% -- 15.15%	10.31%	11.41%
Composite ROE	**8.43% -- 13.23%**	**10.41%**	**10.83%**

Exhibit No. TRANSCO-604

ELECTRIC GROUP

		(a)	(b)	(c)	(d)	(e)	(f)	
	Company	**6-mo. Avg Dividend Yield**	**EPS Growth**	**GDP**	**Weighted**	**Adjusted Dividend Yield**	**DCF Result**	**Break (b Pts)**
1	PPL Corp.	3.61%	17.21%	4.16%	14.60%	3.92%	18.52%	642
2	ALLETE	4.60%	8.10%	4.16%	7.31%	4.79%	12.10%	75
3	Pinnacle West Capital	4.35%	7.50%	4.16%	6.83%	4.51%	11.35%	56
4	Avista Corp.	4.76%	6.30%	4.16%	5.87%	4.91%	10.79%	2
5	Southern Company	3.95%	7.30%	4.16%	6.67%	4.10%	10.77%	3
6	Sempra Energy	6.46%	4.14%	4.16%	4.14%	6.59%	10.74%	15
7	NextEra Energy, Inc.	2.60%	8.80%	4.16%	7.87%	2.71%	10.58%	7
8	Duke Energy Corp.	4.38%	6.45%	4.16%	5.99%	4.52%	10.52%	0
9	Entergy Corp.	4.26%	6.60%	4.16%	6.11%	4.40%	10.51%	14
10	Otter Tail Corp.	2.24%	9.00%	4.16%	8.03%	2.34%	10.37%	20
11	Eversource Energy	3.85%	6.70%	4.16%	6.19%	3.98%	10.17%	13
12	Exelon Corp.	4.04%	6.30%	4.16%	5.87%	4.17%	10.04%	21
13	Alliant Energy	3.44%	6.80%	4.16%	6.27%	3.56%	9.83%	25
14	Edison International	4.23%	5.50%	4.16%	5.23%	4.35%	9.58%	7
15	Xcel Energy Inc.	3.29%	6.60%	4.16%	6.11%	3.40%	9.51%	5
16	Black Hills Corp.	4.19%	5.40%	4.16%	5.15%	4.30%	9.46%	5
17	Emera Inc.	5.11%	4.20%	4.16%	4.19%	5.22%	9.41%	5
18	Consolidated Edison	3.47%	6.12%	4.16%	5.73%	3.58%	9.31%	10
19	Pub Sv Enterprise Grp.	3.69%	5.50%	4.16%	5.23%	3.80%	9.03%	28
20	American Elec Pwr	3.92%	5.20%	4.16%	4.99%	4.03%	9.02%	1
21	CMS Energy Corp.	3.30%	5.87%	4.16%	5.53%	3.40%	8.92%	9
22	WEC Energy Group	3.48%	5.50%	4.16%	5.23%	3.58%	8.81%	12
23	Ameren Corp.	3.02%	5.90%	4.16%	5.55%	3.11%	8.66%	15
24	DTE Energy Co.	3.48%	5.10%	4.16%	4.91%	3.57%	8.48%	18
25	NorthWestern Corp.	4.60%	3.66%	4.16%	3.76%	4.68%	8.44%	4
26	Fortis Inc.	4.00%	4.15%	4.16%	4.15%	4.08%	8.23%	21
27	Evergy Inc.	4.21%	2.67%	4.16%	2.97%	4.27%	7.23%	100
28	IDACORP, Inc.	3.07%	3.70%	4.16%	3.79%	3.13%	6.92%	31
29	Algonquin Pwr & Util	5.48%	0.30%	4.16%	1.07%	5.49%	6.56%	36
30	Dominion Energy	5.16%	-3.44%	4.16%	-1.92%	5.07%	3.15%	340
31	CenterPoint Energy	2.60%	-1.07%	4.16%	-0.02%	2.59%	2.57%	59
32	OGE Energy Corp.	4.61%	-12.34%	4.16%	-9.04%	4.33%	-4.71%	728
	Lower End (g)						**8.23%**	
	Upper End (g)						**12.10%**	
	Median (g)						**9.58%**	
	Midpoint						**10.17%**	
	Median - All Values						**9.43%**	
	Low-End Test (h)						**7.33%**	
	High-End Test (i)						**18.86%**	

(a) Six-month average dividend yield for Apr. 2023 - Sep. 2023.
(b) www.finance.yahoo.com (retreived Oct. 3, 2023).
(c) Exhibit No. Transco-604, page 2.
(d) EPS Growth x 80% + GDP Growth x 20%.
(e) Six-month average dividend yield x [1+ (EPS Growth Rate / 2)].
(f) (d) + (e).
(g) Excludes highlighted values.
(h) Average Baa utility bond yield for six-months ending Sep. 2023, plus 20% of average IBES and Value Line CAPM market risk premium.
(i) 200% of Median - All Values.

GDP GROWTH RATE

Source	Nominal GDP ($ Billions) 2028	2050	2052	2078	Compound Annual Growth Rate
(a) **IHS Markit**	32,027		83,803		4.09%
(b) **EIA**					
Real GDP	21,681	33,405			
GDP Deflator	1.475	2.433			
	31,970	81,288			4.33%
(c) **SSA Trustees Report**	32,778			238,578	4.05%
Average Projected GDP Growth					**4.16%**

(a) IHS Markit, Long-Term Macro Forecast - Baseline (Jan. 23, 2023).
(b) Energy Information Administration, *Annual Energy Outlook 2023* (Mar. 16, 2022).
(c) Social Security Administration, *2023 OASDI Trustees Report*, Table VI.G6.-Selected Economic Variables.

Exhibit No. TRANSCO-605

IBES

		(a)	(b)		(c)		(d)		(e)	(f)		
		Market Return (R_m)				Market						
	Company	Div Yield	Proj. Growth	Cost of Equity	Risk-Free Rate	Risk Premium	Beta	Unadjusted K_e	Market Cap	Size Adjustment	CAPM Result	Break (B Pts)
1	Exelon Corp.	1.93%	9.56%	11.49%	4.02%	7.47%	n/a	n/a	$42,900	-0.26%	n/a	--
2	CenterPoint Energy	1.93%	9.56%	11.49%	4.02%	7.47%	1.10	12.24%	$17,800	0.45%	12.69%	0
3	PPL Corp.	1.93%	9.56%	11.49%	4.02%	7.47%	1.10	12.24%	$21,200	0.45%	12.69%	26
4	OGE Energy Corp.	1.93%	9.56%	11.49%	4.02%	7.47%	1.05	11.86%	$6,800	0.57%	12.43%	36
5	Black Hills Corp.	1.93%	9.56%	11.49%	4.02%	7.47%	1.00	11.49%	$3,800	0.58%	12.07%	2
6	NorthWestern Corp.	1.93%	9.56%	11.49%	4.02%	7.47%	0.95	11.12%	$3,400	0.93%	12.05%	38
7	ALLETE	1.93%	9.56%	11.49%	4.02%	7.47%	0.90	10.74%	$3,200	0.93%	11.67%	0
8	Avista Corp.	1.93%	9.56%	11.49%	4.02%	7.47%	0.90	10.74%	$2,800	0.93%	11.67%	0
9	Otter Tail Corp.	1.93%	9.56%	11.49%	4.02%	7.47%	0.90	10.74%	$3,500	0.93%	11.67%	10
10	Edison International	1.93%	9.56%	11.49%	4.02%	7.47%	0.95	11.12%	$26,200	0.45%	11.57%	0
11	DTE Energy Co.	1.93%	9.56%	11.49%	4.02%	7.47%	0.95	11.12%	$21,600	0.45%	11.57%	0
12	Entergy Corp.	1.93%	9.56%	11.49%	4.02%	7.47%	0.95	11.12%	$20,200	0.45%	11.57%	0
13	Pub Sv Enterprise Grp.	1.93%	9.56%	11.49%	4.02%	7.47%	0.95	11.12%	$31,500	0.45%	11.57%	25
14	Algonquin Pwr & Util	1.93%	9.56%	11.49%	4.02%	7.47%	0.90	10.74%	$3,902	0.58%	11.32%	1
15	Pinnacle West Capital	1.93%	9.56%	11.49%	4.02%	7.47%	0.90	10.74%	$9,200	0.57%	11.31%	8
16	Sempra Energy	1.93%	9.56%	11.49%	4.02%	7.47%	1.00	11.49%	$45,500	-0.26%	11.23%	4
17	Evergy Inc.	1.93%	9.56%	11.49%	4.02%	7.47%	0.90	10.74%	$13,000	0.45%	11.19%	--
18	Eversource Energy	1.93%	9.56%	11.49%	4.02%	7.47%	0.90	10.74%	$27,100	0.45%	11.19%	--
19	NextEra Energy, Inc.	1.93%	9.56%	11.49%	4.02%	7.47%	0.95	11.12%	$155,400	-0.26%	10.86%	33
20	Alliant Energy	1.93%	9.56%	11.49%	4.02%	7.47%	0.85	10.37%	$12,800	0.45%	10.82%	4
21	Ameren Corp.	1.93%	9.56%	11.49%	4.02%	7.47%	0.85	10.37%	$21,100	0.45%	10.82%	0
22	IDACORP, Inc.	1.93%	9.56%	11.49%	4.02%	7.47%	0.80	10.00%	$5,200	0.58%	10.58%	24
23	Southern Company	1.93%	9.56%	11.49%	4.02%	7.47%	0.90	10.74%	$80,800	-0.26%	10.48%	10
24	CMS Energy Corp.	1.93%	9.56%	11.49%	4.02%	7.47%	0.80	10.00%	$16,600	0.45%	10.45%	3
25	WEC Energy Group	1.93%	9.56%	11.49%	4.02%	7.47%	0.80	10.00%	$26,900	0.45%	10.45%	0
26	Dominion Energy	1.93%	9.56%	11.49%	4.02%	7.47%	0.85	10.37%	$47,700	-0.26%	10.11%	34
27	Duke Energy Corp.	1.93%	9.56%	11.49%	4.02%	7.47%	0.85	10.37%	$76,200	-0.26%	10.11%	0
28	Xcel Energy Inc.	1.93%	9.56%	11.49%	4.02%	7.47%	0.85	10.37%	$34,500	-0.26%	10.11%	0
29	American Elec Pwr	1.93%	9.56%	11.49%	4.02%	7.47%	0.80	10.00%	$40,800	-0.26%	9.74%	37
30	Consolidated Edison	1.93%	9.56%	11.49%	4.02%	7.47%	0.80	10.00%	$35,200	-0.26%	9.74%	0
31	Emera Inc.	1.93%	9.56%	11.49%	4.02%	7.47%	0.70	9.25%	$13,900	0.45%	9.70%	4
32	Fortis Inc.	1.93%	9.56%	11.49%	4.02%	7.47%	0.70	9.25%	$25,900	0.45%	9.70%	0
	Lower End (g)										**9.70%**	
	Upper End (g)										**12.69%**	
	Median (g)										**11.19%**	
	Midpoint										**11.20%**	
	Median - All Values										**11.19%**	
	Low-End Test (h)										**7.29%**	
	High-End Test (i)										**22.38%**	

(a) Weighted average for dividend-paying stocks in the S&P 500 from Exhibit No. Transco-606.
(b) IBES growth rates from Refinitiv as provided by fidelity.com (retrieved Sep. 30, 2023). Eliminated growth rates greater than 20%, as well as all negative values.
(c) Six-month average yield on 30-year Treasury bonds for Sep. 2023 from https://fred.stlouisfed.org/.
(d) The Value Line Investment Survey, Summary & Index (Oct. 6, 2023).
(e) Exhibit No. Transco-606.
(f) Kroll, 2022 CRSP Deciles Size Premium, Cost of Capital Navigator (2023).
(g) Excludes highlighted values.
(h) Average Baa utility bond yield for six-months ending Sep. 2023, plus 20% of CAPM market risk premium.
(i) 200% of Median - All Values.

Exhibit No. TRANSCO-606

S&P 500 / IBES

			(a)	(b)	(c)			Weighted	
			Dividend	IBES EPS	Market Cap			Dividend	Growth
	Company	Ticker	Yield	Growth	($bil.)	Mkt. Cap.	Weight	Yield	Rate
1	Agilent Technologies Inc	A	0.80%	7.95%	32.72	32.72	0.0016	0.000013	0.000127
2	Apple Inc	AAPL	0.56%	7.40%	2,676.74	2,676.74	0.1306	0.000732	0.009665
3	AbbVie Inc	ABBV	3.97%	-4.45%	263.10	--	--	--	--
4	Abbott Laboratories	ABT	2.11%	-2.10%	168.07	--	--	--	--
5	Accenture PLC	ACN	1.54%	8.81%	204.02	204.02	0.0100	0.000153	0.000877
6	Analog Devices Inc	ADI	1.96%	-0.58%	87.25	--	--	--	--
7	Archer-Daniels-Midland Co	ADM	2.39%	n/a	40.43	--	--	--	--
8	Automatic Data Processing Inc	ADP	2.20%	13.50%	99.11	99.11	0.0048	0.000107	0.000653
9	Ameren Corporation	AEE	3.37%	5.90%	19.66	19.66	0.0010	0.000032	0.000057
10	American Electric Power Co Inc	AEP	4.41%	5.20%	38.75	38.75	0.0019	0.000083	0.000098
11	AES Corp (The)	AES	4.34%	7.10%	10.18	10.18	0.0005	0.000022	0.000035
12	AFLAC Inc	AFL	2.27%	n/a	45.59	--	--	--	--
13	American International Group Inc	AIG	2.38%	15.80%	43.14	43.14	0.0021	0.000050	0.000333
14	Assurant Inc.	AIZ	1.95%	13.70%	7.61	7.61	0.0004	0.000007	0.000051
15	Arthur J. Gallagher & Co.	AJG	0.98%	12.70%	49.12	49.12	0.0024	0.000024	0.000304
16	Albemarle Corp	ALB	0.94%	12.63%	19.95	19.95	0.0010	0.000009	0.000123
17	The Allstate Corporation	ALL	3.20%	n/a	29.14	--	--	--	--
18	Allegion PLC	ALLE	1.73%	10.60%	9.15	9.15	0.0004	0.000008	0.000047
19	Applied Materials Inc	AMAT	0.92%	13.70%	115.82	115.82	0.0057	0.000052	0.000774
20	Amcor Plc	AMCR	5.35%	4.90%	13.25	13.25	0.0006	0.000035	0.000032
21	AMETEK Inc	AME	0.68%	n/a	34.09	--	--	--	--
22	Amgen Inc	AMGN	3.30%	n/a	143.76	--	--	--	--
23	Ameriprise Financial Inc	AMP	1.64%	n/a	33.83	--	--	--	--
24	American Tower Corp	AMT	4.23%	8.08%	76.66	76.66	0.0037	0.000158	0.000302
25	Aon plc	AON	0.76%	9.20%	65.77	65.77	0.0032	0.000024	0.000295
26	A. O. Smith Corp	AOS	1.84%	n/a	9.95	--	--	--	--
27	APA Corporation	APA	2.55%	-2.00%	12.63	--	--	--	--
28	Air Products and Chemicals Inc.	APD	2.47%	10.27%	62.96	62.96	0.0031	0.000076	0.000315
29	Amphenol Corp	APH	1.07%	5.50%	50.10	50.10	0.0024	0.000026	0.000134
30	Alexandria Real Estate Equities Inc.	ARE	4.96%	n/a	17.32	--	--	--	--
31	Atmos Energy Corp	ATO	3.02%	7.50%	15.73	15.73	0.0008	0.000023	0.000058
32	Activision Blizzard Inc	ATVI	1.06%	12.80%	73.67	73.67	0.0036	0.000038	0.000460
33	AvalonBay Communities Inc.	AVB	3.96%	n/a	24.39	--	--	--	--
34	Broadcom Inc	AVGO	2.22%	10.80%	342.81	342.81	0.0167	0.000371	0.001807
35	Avery Dennison Corp	AVY	1.80%	n/a	14.72	--	--	--	--
36	American Water Works Company Inc	AWK	2.33%	8.07%	24.11	24.11	0.0012	0.000027	0.000095
37	American Express Co	AXP	1.68%	14.80%	109.87	109.87	0.0054	0.000090	0.000793
38	Bank of America Corp	BAC	3.54%	n/a	217.57	--	--	--	--
39	BALL CORP	BALL	1.69%	n/a	15.68	--	--	--	--
40	Baxter International Inc	BAX	3.07%	4.64%	19.11	19.11	0.0009	0.000029	0.000043
41	Bath & Body Works Inc	BBWI	2.43%	7.03%	7.69	7.69	0.0004	0.000009	0.000026
42	Best Buy Co Inc	BBY	5.30%	3.40%	15.12	15.12	0.0007	0.000039	0.000025
43	Becton Dickinson and Co	BDX	1.45%	9.60%	75.00	75.00	0.0037	0.000053	0.000351
44	Franklin Resources Inc	BEN	4.88%	-3.15%	12.26	--	--	--	--
45	Brown-Forman Corp	BF/B	1.46%	13.50%	17.89	17.89	0.0009	0.000013	0.000118
46	Bunge Ltd	BG	2.48%	-8.20%	16.31	--	--	--	--
47	Bank of New York Mellon Corp (The)	BK	3.94%	7.46%	33.22	33.22	0.0016	0.000064	0.000121
48	Baker Hughes a GE Co	BKR	2.27%	43.30%	35.66	--	--	--	--
49	Blackrock Inc	BLK	3.25%	10.08%	96.52	96.52	0.0047	0.000153	0.000475
50	Bristol-Myers Squibb Co	BMY	3.93%	2.43%	121.25	121.25	0.0059	0.000232	0.000144
51	Broadridge Financial Solutions Inc	BR	1.79%	n/a	21.06	--	--	--	--
52	Brown & Brown Inc	BRO	0.66%	n/a	19.81	--	--	--	--
53	BorgWarner Inc	BWA	1.09%	11.00%	9.49	9.49	0.0005	0.000005	0.000051
54	Blackstone Inc	BX	2.95%	11.26%	130.82	130.82	0.0064	0.000188	0.000719
55	Boston Properties Inc	BXP	6.59%	n/a	9.33	--	--	--	--
56	Citigroup Inc	C	5.15%	3.90%	79.20	79.20	0.0039	0.000199	0.000151

S&P 500 / IBES

			(a)	(b)	(c)			Weighted	
			Dividend	IBES EPS	Market Cap			Dividend	Growth
	Company	Ticker	Yield	Growth	($bil.)	Mkt. Cap.	Weight	Yield	Rate
57	Conagra Brands Inc	CAG	5.11%	7.70%	13.10	13.10	0.0006	0.000033	0.000049
58	Cardinal Health Inc	CAH	2.30%	15.50%	21.39	21.39	0.0010	0.000024	0.000162
59	Carrier Global Corp	CARR	1.34%	9.87%	46.24	46.24	0.0023	0.000030	0.000223
60	Caterpillar Inc	CAT	1.90%	10.35%	139.27	139.27	0.0068	0.000129	0.000703
61	Chubb Ltd	CB	1.68%	12.40%	85.51	85.51	0.0042	0.000070	0.000517
62	Cboe Global Markets Inc	CBOE	1.41%	5.46%	16.48	16.48	0.0008	0.000011	0.000044
63	Crown Castle Inc	CCI	7.12%	-5.14%	39.91	--	--	--	--
64	CDW Corp	CDW	1.17%	6.40%	27.05	27.05	0.0013	0.000015	0.000084
65	Celanese Corp	CE	2.26%	1.92%	13.66	13.66	0.0007	0.000015	0.000013
66	Constellation Energy Corp	CEG	1.04%	n/a	35.08	--	--	--	--
67	CF Industries Holdings Inc	CF	2.04%	n/a	16.54	--	--	--	--
68	Citizens Financial Group Inc	CFG	6.27%	n/a	12.66	--	--	--	--
69	Church & Dwight Co Inc	CHD	1.19%	7.10%	22.55	22.55	0.0011	0.000013	0.000078
70	C.H. Robinson Worldwide Inc.	CHRW	2.83%	-11.90%	10.03	--	--	--	--
71	The Cigna Group	CI	1.73%	11.20%	84.67	84.67	0.0041	0.000072	0.000463
72	Cincinnati Financial Corp	CINF	3.05%	n/a	16.04	--	--	--	--
73	Colgate-Palmolive Co	CL	2.74%	7.93%	58.79	58.79	0.0029	0.000079	0.000227
74	Clorox Co (The)	CLX	3.66%	10.40%	16.23	16.23	0.0008	0.000029	0.000082
75	Comerica Incorporated	CMA	6.84%	n/a	5.48	--	--	--	--
76	Comcast Corp	CMCSA	2.62%	7.38%	182.91	182.91	0.0089	0.000233	0.000659
77	CME Group Inc	CME	2.20%	8.76%	72.03	72.03	0.0035	0.000077	0.000308
78	Cummins Inc.	CMI	2.94%	11.51%	32.36	32.36	0.0016	0.000046	0.000182
79	CMS Energy Corp	CMS	3.67%	5.88%	15.49	15.49	0.0008	0.000028	0.000044
80	CenterPoint Energy Inc.	CNP	2.83%	n/a	16.95	--	--	--	--
81	Capital One Financial Corp.	COF	2.47%	n/a	37.02	--	--	--	--
82	Cooper Cos Inc (The)	COO	0.02%	n/a	15.75	--	--	--	--
83	Conocophillips	COP	2.00%	n/a	143.46	--	--	--	--
84	AMERISOURCEBERGEN CORP	COR	1.12%	8.70%	36.39	36.39	0.0018	0.000020	0.000154
85	Costco Wholesale Corp	COST	0.72%	8.49%	250.16	250.16	0.0122	0.000088	0.001036
86	Campbell Soup Co	CPB	3.80%	5.10%	12.24	12.24	0.0006	0.000023	0.000030
87	Camden Property Trust	CPT	4.40%	n/a	10.10	--	--	--	--
88	Cisco Systems Inc	CSCO	2.90%	6.41%	217.99	217.99	0.0106	0.000309	0.000682
89	CSX Corp	CSX	1.43%	6.70%	61.69	61.69	0.0030	0.000043	0.000202
90	Cintas Corp	CTAS	1.12%	12.17%	49.03	49.03	0.0024	0.000027	0.000291
91	Coterra Energy Inc	CTRA	2.96%	n/a	20.42	--	--	--	--
92	Cognizant Technology Solutions Corp	CTSH	1.77%	4.25%	34.21	34.21	0.0017	0.000030	0.000071
93	Corteva Inc	CTVA	1.27%	9.90%	36.31	36.31	0.0018	0.000023	0.000175
94	CVS Health Corp	CVS	3.59%	4.39%	89.68	89.68	0.0044	0.000157	0.000192
95	Chevron Corp	CVX	3.69%	n/a	321.66	--	--	--	--
96	Dominion Energy Inc	D	5.98%	-3.44%	37.38	--	--	--	--
97	Delta Air Lines Inc	DAL	1.08%	35.51%	23.81	--	--	--	--
98	DuPont De Nemours Inc	DD	2.01%	10.16%	34.24	34.24	0.0017	0.000034	0.000170
99	DEERE & COMPANY	DE	1.43%	14.20%	108.69	108.69	0.0053	0.000076	0.000753
100	Discover Financial Services	DFS	3.23%	n/a	21.65	--	--	--	--
101	Dollar General Corporation	DG	2.23%	-0.47%	23.22	--	--	--	--
102	Quest Diagnostics Inc	DGX	2.33%	-0.92%	13.68	--	--	--	--
103	D.R. Horton Inc.	DHI	0.96%	-5.63%	36.36	--	--	--	--
104	Danaher Corp	DHR	0.44%	0.27%	183.19	183.19	0.0089	0.000039	0.000024
105	Digital Realty Trust Inc	DLR	4.18%	16.51%	36.63	36.63	0.0018	0.000075	0.000295
106	Dover Corp	DOV	1.46%	9.45%	19.51	19.51	0.0010	0.000014	0.000090
107	Dow Inc	DOW	5.72%	-8.13%	36.25	--	--	--	--
108	Domino's Pizza Inc	DPZ	1.33%	12.23%	13.29	13.29	0.0006	0.000009	0.000079
109	Darden Restaurants Inc	DRI	3.66%	9.50%	17.31	17.31	0.0008	0.000031	0.000080
110	DTE Energy Co	DTE	3.84%	5.10%	20.47	20.47	0.0010	0.000038	0.000051
111	Duke Energy Corp	DUK	4.65%	6.45%	68.02	68.02	0.0033	0.000154	0.000214
112	Devon Energy Corp	DVN	1.68%	n/a	30.56	--	--	--	--

S&P 500 / IBES

			(a)	(b)	(c)			Weighted	
			Dividend	IBES EPS	Market Cap			Dividend	Growth
	Company	Ticker	Yield	Growth	($bil.)	Mkt. Cap.	Weight	Yield	Rate
113	Electronic Arts Inc	EA	0.66%	5.65%	32.62	32.62	0.0016	0.000011	0.000090
114	eBay Inc.	EBAY	2.40%	8.26%	23.46	23.46	0.0011	0.000028	0.000095
115	Ecolab Inc.	ECL	1.25%	14.36%	48.28	48.28	0.0024	0.000029	0.000338
116	Consolidated Edison Inc.	ED	3.85%	n/a	29.50	--	--	--	--
117	Equifax Inc.	EFX	0.85%	12.44%	22.48	22.48	0.0011	0.000009	0.000136
118	Everest Group Ltd	EG	1.88%	30.50%	16.13	--	--	--	--
119	Edison International	EIX	4.83%	5.50%	24.26	24.26	0.0012	0.000057	0.000065
120	Estee Lauder Cos Inc (The)	EL	1.83%	24.81%	51.73	--	--	--	--
121	Elevance Health Inc	ELV	1.36%	12.75%	102.61	102.61	0.0050	0.000068	0.000638
122	Eastman Chemical Co	EMN	4.12%	5.95%	9.10	9.10	0.0004	0.000018	0.000026
123	Emerson Electric Co.	EMR	2.18%	12.80%	55.19	55.19	0.0027	0.000059	0.000345
124	EOG Resources Inc.	EOG	2.76%	-1.00%	73.81	--	--	--	--
125	Equinix Inc	EQIX	1.88%	22.70%	67.95	--	--	--	--
126	Equity Residential	EQR	4.51%	n/a	22.25	--	--	--	--
127	EQT Corp	EQT	1.48%	25.00%	16.69	--	--	--	--
128	Eversource Energy	ES	4.78%	n/a	20.30	--	--	--	--
129	Essex Property Trust Inc.	ESS	4.36%	n/a	13.61	--	--	--	--
130	Eaton Corp Plc	ETN	1.61%	11.83%	85.10	85.10	0.0042	0.000067	0.000491
131	Entergy corporation	ETR	4.63%	n/a	19.56	--	--	--	--
132	EVERGY INC	EVRG	4.99%	n/a	11.65	--	--	--	--
133	Exelon Corp	EXC	3.81%	n/a	37.61	--	--	--	--
134	Expeditors International of Washington Inc.	EXPD	1.20%	-12.10%	16.95	--	--	--	--
135	Extra Space Storage Inc	EXR	5.58%	n/a	25.69	--	--	--	--
136	Ford Motor Co	F	4.83%	-1.80%	49.71	--	--	--	--
137	Diamondback Energy Inc	FANG	2.17%	n/a	27.70	--	--	--	--
138	Fastenal Co	FAST	2.56%	n/a	31.22	--	--	--	--
139	Freeport-McMoRan Inc	FCX	1.85%	-15.20%	53.46	--	--	--	--
140	FactSet Research Systems Inc.	FDS	0.90%	11.30%	16.68	16.68	0.0008	0.000007	0.000092
141	FedEx Corp.	FDX	1.90%	22.50%	66.61	--	--	--	--
142	FirstEnergy Corp.	FE	4.89%	6.76%	19.60	19.60	0.0010	0.000047	0.000065
143	Fidelity National Information Services Inc	FIS	3.85%	2.55%	32.75	32.75	0.0016	0.000062	0.000041
144	Fifth Third Bancorp	FITB	5.68%	n/a	17.25	--	--	--	--
145	FMC Corp.	FMC	3.69%	n/a	8.35	--	--	--	--
146	Fox Corp	FOXA	1.67%	12.80%	7.81	7.81	0.0004	0.000006	0.000049
147	Federal Realty Investment Trust	FRT	4.81%	n/a	7.39	--	--	--	--
148	Fortive Corp	FTV	0.38%	7.60%	26.11	26.11	0.0013	0.000005	0.000097
149	General Dynamics Corp	GD	2.50%	10.80%	60.33	60.33	0.0029	0.000074	0.000318
150	General Electric Co	GE	0.29%	29.02%	120.32	--	--	--	--
151	GE HealthCare Technologies Inc	GEHC	0.18%	n/a	30.95	--	--	--	--
152	Gen Digital Inc	GEN	2.83%	11.90%	11.31	11.31	0.0006	0.000016	0.000066
153	Gilead Sciences Inc	GILD	4.00%	4.43%	93.38	93.38	0.0046	0.000182	0.000202
154	General Mills Inc.	GIS	3.69%	7.67%	37.20	37.20	0.0018	0.000067	0.000139
155	Globe Life Inc	GL	0.83%	n/a	10.31	--	--	--	--
156	Corning Inc	GLW	3.68%	8.00%	25.99	25.99	0.0013	0.000047	0.000101
157	General Motors Co	GM	1.09%	4.75%	45.36	45.36	0.0022	0.000024	0.000105
158	Genuine Parts Co	GPC	2.63%	n/a	20.28	--	--	--	--
159	GLOBAL PAYMENTS INC	GPN	0.92%	14.71%	30.00	30.00	0.0015	0.000013	0.000215
160	Garmin Ltd	GRMN	2.83%	5.60%	20.14	20.14	0.0010	0.000028	0.000055
161	Goldman Sachs Group Inc (The)	GS	3.40%	10.45%	106.67	106.67	0.0052	0.000177	0.000544
162	Grainger (W.W.) Inc	GWW	1.10%	n/a	34.59	--	--	--	--
163	Halliburton Co	HAL	1.83%	23.70%	36.39	--	--	--	--
164	Hasbro Inc.	HAS	4.23%	n/a	9.18	--	--	--	--
165	Huntington Bancshares Inc	HBAN	5.96%	n/a	15.06	--	--	--	--
166	HCA Healthcare Inc	HCA	0.98%	10.05%	66.90	66.90	0.0033	0.000032	0.000328
167	Home Depot Inc. (The)	HD	2.77%	1.10%	302.18	302.18	0.0147	0.000408	0.000162
168	Hess Corp	HES	1.22%	n/a	46.98	--	--	--	--

S&P 500 / IBES

			(a)	(b)	(c)			Weighted	
			Dividend	IBES EPS	Market Cap			Dividend	Growth
	Company	Ticker	Yield	Growth	($bil.)	Mkt. Cap.	Weight	Yield	Rate
169	Hartford Financial Services Group Inc. (The)	HIG	2.40%	13.00%	21.69	21.69	0.0011	0.000025	0.000138
170	Huntington Ingalls Industries Inc	HII	2.42%	6.58%	8.16	8.16	0.0004	0.000010	0.000026
171	Hilton Worldwide Holdings Inc	HLT	0.40%	16.05%	39.27	39.27	0.0019	0.000008	0.000308
172	Honeywell International Inc	HON	2.23%	8.01%	122.66	122.66	0.0060	0.000133	0.000480
173	Hewlett Packard Enterprise Co	HPE	2.76%	3.23%	22.28	22.28	0.0011	0.000030	0.000035
174	HP Inc	HPQ	4.09%	-1.69%	25.40	--	--	--	--
175	Hormel Foods Corp	HRL	2.89%	4.50%	20.78	20.78	0.0010	0.000029	0.000046
176	Host Hotels & Resorts Inc	HST	4.48%	n/a	11.44	--	--	--	--
177	Hershey Co (The)	HSY	2.38%	8.91%	40.91	40.91	0.0020	0.000048	0.000178
178	Humana Inc.	HUM	0.76%	13.68%	60.28	60.28	0.0029	0.000022	0.000402
179	Howmet Aerospace Inc	HWM	0.35%	21.72%	19.06	--	--	--	--
180	International Business Machines Corp	IBM	4.73%	3.40%	127.81	127.81	0.0062	0.000295	0.000212
181	Intercontinental Exchange Inc	ICE	1.53%	6.81%	62.84	62.84	0.0031	0.000047	0.000209
182	IDEX Corp	IEX	1.23%	12.00%	15.73	15.73	0.0008	0.000009	0.000092
183	International Flavors & Fragrances Inc	IFF	4.75%	-0.58%	17.40	--	--	--	--
184	Intel Corp	INTC	1.41%	7.82%	148.88	148.88	0.0073	0.000102	0.000568
185	Intuit Inc.	INTU	0.70%	14.69%	143.20	143.20	0.0070	0.000049	0.001026
186	International Paper Co	IP	5.22%	n/a	12.27	--	--	--	--
187	Interpublic Group of Cos Inc (The)	IPG	4.47%	5.30%	11.03	11.03	0.0005	0.000024	0.000029
188	Ingersoll Rand Inc	IR	0.13%	12.19%	25.77	25.77	0.0013	0.000002	0.000153
189	Iron Mountain Inc	IRM	4.37%	5.70%	17.35	17.35	0.0008	0.000037	0.000048
190	Illinois Tool Works Inc.	ITW	2.43%	3.13%	69.64	69.64	0.0034	0.000083	0.000106
191	Invesco Ltd	IVZ	5.65%	14.90%	6.51	6.51	0.0003	0.000018	0.000047
192	Jacobs Solutions Inc	J	0.76%	9.10%	17.19	17.19	0.0008	0.000006	0.000076
193	J.B. Hunt Transport Services Inc.	JBHT	0.91%	9.50%	19.48	19.48	0.0010	0.000009	0.000090
194	Johnson Controls International Plc	JCI	2.78%	15.25%	36.20	36.20	0.0018	0.000049	0.000269
195	Henry (Jack) & Associates Inc	JKHY	1.38%	7.50%	11.02	11.02	0.0005	0.000007	0.000040
196	Johnson & Johnson	JNJ	3.09%	5.75%	375.05	375.05	0.0183	0.000566	0.001052
197	Juniper Networks Inc	JNPR	3.27%	n/a	8.93	--	--	--	--
198	JPMorgan Chase & Co	JPM	2.90%	n/a	421.44	--	--	--	--
199	Kellogg Co	K	4.03%	2.91%	20.37	20.37	0.0010	0.000040	0.000029
200	Keurig Dr Pepper Inc	KDP	2.72%	6.94%	44.11	44.11	0.0022	0.000059	0.000149
201	KeyCorp	KEY	7.62%	n/a	10.07	--	--	--	--
202	The Kraft Heinz Co	KHC	4.76%	5.17%	41.32	41.32	0.0020	0.000096	0.000104
203	Kimco Realty Corp	KIM	5.46%	n/a	10.90	--	--	--	--
204	KLA Corp	KLAC	1.13%	6.02%	62.53	62.53	0.0031	0.000035	0.000184
205	Kimberly-Clark Corp	KMB	3.93%	9.76%	40.87	40.87	0.0020	0.000078	0.000195
206	Kinder Morgan Inc.	KMI	6.82%	0.30%	36.94	36.94	0.0018	0.000123	0.000005
207	Coca-Cola Co (The)	KO	3.29%	6.38%	242.08	242.08	0.0118	0.000388	0.000754
208	Kroger Co. (The)	KR	2.59%	8.00%	32.19	32.19	0.0016	0.000041	0.000126
209	Kenvue Inc	KVUE	3.98%	1.48%	69.25	69.25	0.0034	0.000135	0.000050
210	Loews Corp	L	0.39%	n/a	14.28	--	--	--	--
211	Leidos Holdings Inc	LDOS	1.57%	7.90%	12.66	12.66	0.0006	0.000010	0.000049
212	Lennar Corp	LEN	1.38%	0.60%	32.26	32.26	0.0016	0.000022	0.000009
213	Laboratory Corp of America Holdings	LH	1.43%	-4.49%	17.81	--	--	--	--
214	L3Harris Technologies Inc	LHX	2.64%	n/a	32.93	--	--	--	--
215	Linde Plc	LIN	1.37%	11.51%	181.69	181.69	0.0089	0.000121	0.001020
216	LKQ Corporation	LKQ	2.22%	n/a	13.25	--	--	--	--
217	Eli Lilly and Co	LLY	0.84%	24.25%	509.89	--	--	--	--
218	Lockheed Martin Corp	LMT	3.08%	12.28%	102.99	102.99	0.0050	0.000155	0.000617
219	Alliant Energy Corporation	LNT	3.74%	6.80%	12.24	12.24	0.0006	0.000022	0.000041
220	Lowe's Cos Inc	LOW	2.12%	5.55%	119.95	119.95	0.0059	0.000124	0.000325
221	Lam Research Corp	LRCX	1.28%	8.33%	82.87	82.87	0.0040	0.000052	0.000337
222	Southwest Airlines Co.	LUV	2.73%	44.58%	16.12	--	--	--	--
223	Lamb Weston Holdings Inc	LW	1.23%	37.10%	13.48	--	--	--	--
224	LyondellBasell Industries NV	LYB	5.28%	1.64%	30.70	30.70	0.0015	0.000079	0.000025

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			(a)	(b)	(c)			Weighted	
			Dividend	IBES EPS	Market Cap			Dividend	Growth
	Company	Ticker	Yield	Growth	($bil.)	Mkt. Cap.	Weight	Yield	Rate
225	Mastercard Inc	MA	0.61%	16.98%	373.03	373.03	0.0182	0.000110	0.003091
226	Mid-America Apartment Communities Inc	MAA	4.35%	n/a	15.01	--	--	--	--
227	Marriott International Inc	MAR	1.06%	17.40%	58.62	58.62	0.0029	0.000030	0.000498
228	Masco Corporation	MAS	2.23%	4.36%	12.02	12.02	0.0006	0.000013	0.000026
229	McDonald's Corp	MCD	2.44%	9.20%	191.99	191.99	0.0094	0.000229	0.000862
230	Microchip Technology Inc	MCHP	2.33%	12.10%	42.49	42.49	0.0021	0.000048	0.000251
231	McKesson Corp	MCK	0.57%	9.97%	58.66	58.66	0.0029	0.000016	0.000285
232	Moody's Corp.	MCO	0.97%	13.43%	58.02	58.02	0.0028	0.000028	0.000380
233	Mondelez International Inc	MDLZ	2.45%	9.25%	94.41	94.41	0.0046	0.000113	0.000426
234	Medtronic PLC	MDT	3.61%	3.47%	104.26	104.26	0.0051	0.000184	0.000176
235	Metlife Inc.	MET	3.31%	9.40%	47.31	47.31	0.0023	0.000076	0.000217
236	McCormick & Co Inc	MKC	2.06%	8.10%	18.99	18.99	0.0009	0.000019	0.000075
237	MarketAxess Holdings Inc	MKTX	1.35%	12.18%	8.05	8.05	0.0004	0.000005	0.000048
238	Martin Marietta Materials Inc.	MLM	0.73%	21.40%	25.37	--	--	--	--
239	Marsh & McLennan Companies Inc	MMC	1.49%	10.50%	94.00	94.00	0.0046	0.000068	0.000482
240	3M Co	MMM	6.42%	1.66%	51.68	51.68	0.0025	0.000162	0.000042
241	Altria Group Inc	MO	9.32%	3.57%	74.62	74.62	0.0036	0.000339	0.000130
242	Mosaic Company (The)	MOS	2.25%	n/a	11.83	--	--	--	--
243	Marathon Petroleum Corp	MPC	1.98%	-17.90%	60.51	--	--	--	--
244	Monolithic Power Systems Inc	MPWR	0.87%	25.00%	22.07	--	--	--	--
245	Merck & Co Inc	MRK	2.84%	11.95%	261.24	261.24	0.0127	0.000362	0.001523
246	Marathon Oil Corp	MRO	1.57%	n/a	16.20	--	--	--	--
247	Morgan Stanley	MS	4.16%	4.96%	135.32	135.32	0.0066	0.000275	0.000328
248	MSCI Inc	MSCI	1.08%	14.59%	40.58	40.58	0.0020	0.000021	0.000289
249	Microsoft Corp	MSFT	0.95%	14.41%	2,345.95	2,345.95	0.1145	0.001088	0.016490
250	Motorola Solutions Inc	MSI	1.29%	7.20%	45.47	45.47	0.0022	0.000029	0.000160
251	M&T Bank Corp	MTB	4.19%	n/a	20.98	--	--	--	--
252	Micron Technology Inc.	MU	0.68%	-2.62%	74.51	--	--	--	--
253	Nasdaq Inc	NDAQ	1.81%	4.39%	23.87	23.87	0.0012	0.000021	0.000051
254	Nordson Corp	NDSN	1.28%	13.00%	12.72	12.72	0.0006	0.000008	0.000081
255	NextEra Energy Inc	NEE	3.44%	8.80%	115.94	115.94	0.0057	0.000195	0.000498
256	Newmont Corporation	NEM	4.33%	11.90%	29.37	29.37	0.0014	0.000062	0.000171
257	NiSource Inc	NI	4.13%	n/a	10.20	--	--	--	--
258	Nike Inc	NKE	1.42%	14.42%	146.30	146.30	0.0071	0.000102	0.001029
259	Northrop Grumman Corp	NOC	1.74%	1.90%	66.60	66.60	0.0032	0.000057	0.000062
260	NRG Energy Inc	NRG	3.92%	4.00%	8.83	8.83	0.0004	0.000017	0.000017
261	Norfolk Southern Corp	NSC	2.74%	4.30%	44.71	44.71	0.0022	0.000060	0.000094
262	NetApp Inc	NTAP	2.77%	8.80%	15.84	15.84	0.0008	0.000021	0.000068
263	Northern Trust Corp	NTRS	4.32%	n/a	14.38	--	--	--	--
264	Nucor Corp	NUE	1.33%	n/a	38.89	--	--	--	--
265	NVIDIA Corporation	NVDA	0.04%	78.70%	1,074.43	--	--	--	--
266	News Corp	NWSA	1.00%	n/a	7.61	--	--	--	--
267	NXP Semiconductors NV	NXPI	2.03%	7.85%	51.54	51.54	0.0025	0.000051	0.000197
268	Realty Income Corp.	O	6.23%	n/a	35.40	--	--	--	--
269	Old Dominion Freight Line Inc	ODFL	0.40%	10.00%	44.71	44.71	0.0022	0.000009	0.000218
270	Organon & Co	OGN	6.45%	-5.00%	4.44	--	--	--	--
271	ONEOK Inc	OKE	6.12%	n/a	36.95	--	--	--	--
272	Omnicom Group Inc	OMC	3.76%	4.80%	14.72	14.72	0.0007	0.000027	0.000034
273	Oracle Corp	ORCL	1.51%	10.85%	290.15	290.15	0.0142	0.000214	0.001535
274	Otis Worldwide Corp	OTIS	1.69%	9.30%	33.07	33.07	0.0016	0.000027	0.000150
275	Occidental Petroleum Corp	OXY	1.26%	-16.55%	57.40	--	--	--	--
276	Paramount Global	PARA	1.55%	-3.70%	7.87	--	--	--	--
277	Paycom Software Inc	PAYC	0.58%	22.50%	15.68	--	--	--	--
278	Paychex Inc.	PAYX	3.21%	8.53%	41.66	41.66	0.0020	0.000065	0.000173
279	PACCAR Inc	PCAR	3.47%	n/a	44.45	--	--	--	--
280	Healthpeak Properties Inc	PEAK	6.54%	-10.10%	10.04	--	--	--	--

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			(a)	(b)	(c)			Weighted	
			Dividend	IBES EPS	Market Cap			Dividend	Growth
	Company	Ticker	Yield	Growth	($bil.)	Mkt. Cap.	Weight	Yield	Rate
281	Public Service Enterprise Group Inc	PEG	4.11%	5.50%	28.40	28.40	0.0014	0.000057	0.000076
282	PepsiCo Inc	PEP	3.07%	8.54%	233.25	233.25	0.0114	0.000349	0.000972
283	Pfizer Inc	PFE	4.94%	-14.65%	187.28	--	--	--	--
284	Principal Financial Group Inc	PFG	3.61%	n/a	17.42	--	--	--	--
285	Procter & Gamble Co (The)	PG	2.58%	7.62%	343.78	343.78	0.0168	0.000432	0.001278
286	Progressive Corp (The)	PGR	0.29%	25.10%	81.50	--	--	--	--
287	Parker-Hannifin Corp	PH	1.55%	11.15%	50.06	50.06	0.0024	0.000038	0.000272
288	PulteGroup Inc	PHM	0.89%	n/a	16.25	--	--	--	--
289	Packaging Corp Of America	PKG	3.26%	n/a	13.81	--	--	--	--
290	Prologis Inc	PLD	3.24%	n/a	103.67	--	--	--	--
291	Philip Morris International Inc	PM	5.62%	7.92%	143.72	143.72	0.0070	0.000394	0.000555
292	The PNC Financial Services Group Inc	PNC	5.05%	n/a	48.89	--	--	--	--
293	Pentair plc	PNR	1.36%	8.93%	10.69	10.69	0.0005	0.000007	0.000047
294	Pinnacle West Capital Corp	PNW	4.76%	7.50%	8.35	8.35	0.0004	0.000019	0.000031
295	Pool Corp	POOL	1.24%	-0.77%	13.91	--	--	--	--
296	PPG Industries Inc.	PPG	2.00%	13.50%	30.57	30.57	0.0015	0.000030	0.000201
297	PPL Corp	PPL	4.07%	n/a	17.37	--	--	--	--
298	Prudential Financial Inc	PRU	5.27%	10.75%	34.45	34.45	0.0017	0.000089	0.000181
299	Public Storage	PSA	4.55%	n/a	46.33	--	--	--	--
300	Phillips 66	PSX	3.62%	n/a	53.50	--	--	--	--
301	Quanta Services Inc.	PWR	0.17%	n/a	27.16	--	--	--	--
302	Pioneer Natural Resources Co	PXD	3.21%	-4.00%	53.52	--	--	--	--
303	QUALCOMM Inc.	QCOM	2.88%	-11.57%	123.94	--	--	--	--
304	Regency Centers Corp.	REG	4.37%	n/a	10.76	--	--	--	--
305	Regions Financial Corp	RF	5.58%	n/a	16.14	--	--	--	--
306	Robert Half Inc	RHI	2.82%	-1.30%	7.85	--	--	--	--
307	Raymond James Financial Inc.	RJF	1.67%	n/a	20.97	--	--	--	--
308	Ralph Lauren Corp	RL	2.58%	13.27%	7.58	7.58	0.0004	0.000010	0.000049
309	Resmed Inc	RMD	1.30%	11.60%	21.75	21.75	0.0011	0.000014	0.000123
310	Rockwell Automation Inc.	ROK	1.65%	15.42%	32.84	32.84	0.0016	0.000026	0.000247
311	ROLLINS INC	ROL	1.39%	14.20%	18.40	18.40	0.0009	0.000013	0.000127
312	Roper Technologies Inc	ROP	0.56%	10.50%	51.68	51.68	0.0025	0.000014	0.000265
313	Ross Stores Inc	ROST	1.23%	11.61%	38.25	38.25	0.0019	0.000023	0.000217
314	Republic Services Inc.	RSG	1.50%	n/a	45.08	--	--	--	--
315	RTX Corp	RTX	3.28%	11.26%	104.75	104.75	0.0051	0.000168	0.000575
316	Revvity Inc	RVTY	0.25%	n/a	13.74	--	--	--	--
317	SBA Communications Corp	SBAC	1.75%	12.00%	21.70	21.70	0.0011	0.000019	0.000127
318	Starbucks Corp	SBUX	2.32%	16.30%	104.54	104.54	0.0051	0.000118	0.000831
319	Schwab (Charles) Corp	SCHW	1.91%	8.83%	99.98	99.98	0.0049	0.000093	0.000431
320	Sealed Air Corp	SEE	2.43%	1.60%	4.75	4.75	0.0002	0.000006	0.000004
321	Sherwin-Williams Co (The)	SHW	0.95%	12.68%	65.59	65.59	0.0032	0.000030	0.000406
322	The J M Smucker Company	SJM	3.45%	7.22%	12.55	12.55	0.0006	0.000021	0.000044
323	Schlumberger Ltd	SLB	1.72%	32.70%	82.86	--	--	--	--
324	Snap-On Inc	SNA	2.62%	4.60%	13.50	13.50	0.0007	0.000017	0.000030
325	Southern Co (The)	SO	4.33%	n/a	70.58	--	--	--	--
326	Simon Property Group Inc.	SPG	7.50%	n/a	35.35	--	--	--	--
327	S&P Global Inc	SPGI	0.99%	13.36%	116.27	116.27	0.0057	0.000056	0.000758
328	Sempra	SRE	3.59%	n/a	42.81	--	--	--	--
329	Steris Plc	STE	0.95%	n/a	21.65	--	--	--	--
330	Steel Dynamics Inc	STLD	1.60%	n/a	17.76	--	--	--	--
331	State Street Corporation	STT	4.17%	4.65%	21.34	21.34	0.0010	0.000043	0.000048
332	Seagate Technology Holdings plc	STX	4.25%	221.87%	13.71	--	--	--	--
333	Constellation Brands Inc	STZ	1.42%	10.89%	46.07	46.07	0.0022	0.000032	0.000245
334	Stanley Black & Decker Inc	SWK	3.88%	13.96%	12.81	12.81	0.0006	0.000024	0.000087
335	Skyworks Solutions Inc	SWKS	2.76%	15.00%	15.71	15.71	0.0008	0.000021	0.000115
336	Synchrony Financial	SYF	3.27%	n/a	12.78	--	--	--	--

S&P 500 / IBES

			(a)	(b)	(c)				
				IBES	Market			Weighted	
			Dividend	EPS	Cap			Dividend	Growth
	Company	Ticker	Yield	Growth	($bil.)	Mkt. Cap.	Weight	Yield	Rate
337	Stryker Corp	SYK	1.15%	10.08%	103.78	103.78	0.0051	0.000058	0.000510
338	Sysco Corporation	SYY	3.03%	12.55%	33.35	33.35	0.0016	0.000049	0.000204
339	AT&T Inc	T	7.39%	0.32%	107.38	107.38	0.0052	0.000387	0.000017
340	Molson Coors Beverage Company	TAP	2.64%	7.63%	12.78	12.78	0.0006	0.000016	0.000048
341	Bio-Techne Corp	TECH	0.47%	13.99%	10.77	10.77	0.0005	0.000002	0.000074
342	TE Connectivity Ltd	TEL	1.91%	n/a	38.78	--	--	--	--
343	Teradyne Inc	TER	0.48%	10.67%	15.47	15.47	0.0008	0.000004	0.000081
344	Truist Financial Corp	TFC	7.83%	n/a	38.11	--	--	--	--
345	Teleflex Inc	TFX	0.69%	n/a	9.23	--	--	--	--
346	Target Corp	TGT	3.98%	18.28%	51.04	51.04	0.0025	0.000099	0.000455
347	TJX Companies Inc (The)	TJX	1.50%	12.93%	101.69	101.69	0.0050	0.000074	0.000642
348	Thermo Fisher Scientific Inc	TMO	0.28%	6.09%	195.36	195.36	0.0095	0.000026	0.000580
349	Tapestry Inc	TPR	4.87%	11.00%	6.59	6.59	0.0003	0.000016	0.000035
350	Targa Resources Corp	TRGP	2.33%	18.80%	19.18	19.18	0.0009	0.000022	0.000176
351	T. Rowe Price Group Inc	TROW	4.73%	-3.30%	23.52	--	--	--	--
352	Travelers Companies Inc (The)	TRV	2.45%	13.75%	37.39	37.39	0.0018	0.000045	0.000251
353	Tractor Supply Co	TSCO	2.03%	7.73%	22.09	22.09	0.0011	0.000022	0.000083
354	Tyson Foods Inc.	TSN	3.80%	n/a	17.95	--	--	--	--
355	Trane Technologies plc	TT	1.48%	12.84%	46.34	46.34	0.0023	0.000033	0.000290
356	Texas Instruments Inc	TXN	3.12%	10.00%	144.38	144.38	0.0070	0.000220	0.000704
357	Textron Inc	TXT	0.10%	17.50%	15.48	15.48	0.0008	0.000001	0.000132
358	UDR Inc	UDR	4.93%	n/a	11.75	--	--	--	--
359	Universal Health Services Inc.	UHS	0.64%	10.41%	8.72	8.72	0.0004	0.000003	0.000044
360	Unitedhealth Group Inc	UNH	1.49%	12.78%	467.03	467.03	0.0228	0.000340	0.002912
361	Union Pacific Corp	UNP	2.55%	7.90%	124.10	124.10	0.0061	0.000155	0.000478
362	United Parcel Service Inc	UPS	4.16%	-2.30%	133.18	--	--	--	--
363	United Rentals Inc.	URI	1.33%	17.65%	30.36	30.36	0.0015	0.000020	0.000261
364	U.S. Bancorp	USB	5.81%	6.00%	51.47	51.47	0.0025	0.000146	0.000151
365	Visa Inc	V	0.88%	14.76%	468.15	468.15	0.0228	0.000202	0.003372
366	V.F. Corp	VFC	6.79%	9.24%	6.87	6.87	0.0003	0.000023	0.000031
367	VICI Properties Inc	VICI	5.70%	n/a	29.49	--	--	--	--
368	Valero Energy Corp	VLO	2.88%	-21.05%	50.04	--	--	--	--
369	Vulcan Materials Co	VMC	0.85%	20.80%	26.84	--	--	--	--
370	VERISK ANALYTICS INC	VRSK	0.58%	11.15%	34.26	34.26	0.0017	0.000010	0.000186
371	Ventas Inc.	VTR	4.41%	n/a	16.95	--	--	--	--
372	Viatris Inc	VTRS	5.27%	-2.10%	11.83	--	--	--	--
373	Verizon Communications Inc	VZ	8.21%	0.49%	136.25	136.25	0.0066	0.000546	0.000033
374	Westinghouse Air Brake Technologies Corp	WAB	0.64%	13.70%	19.04	19.04	0.0009	0.000006	0.000127
375	Walgreens Boots Alliance Inc	WBA	8.68%	-3.71%	19.20	--	--	--	--
376	WEC Energy Group Inc	WEC	3.87%	5.50%	25.41	25.41	0.0012	0.000048	0.000068
377	Welltower Inc	WELL	3.13%	66.40%	42.49	--	--	--	--
378	Wells Fargo & Co	WFC	3.43%	n/a	149.50	--	--	--	--
379	Whirlpool Corp	WHR	5.61%	n/a	7.33	--	--	--	--
380	Waste Management Inc.	WM	1.84%	n/a	61.75	--	--	--	--
381	Williams Cos Inc. (The)	WMB	5.31%	n/a	40.98	--	--	--	--
382	Walmart Inc	WMT	1.43%	7.37%	430.46	430.46	0.0210	0.000299	0.001547
383	Berkley (W.R.) Corp	WRB	0.69%	9.00%	16.35	16.35	0.0008	0.000006	0.000072
384	WestRock Company	WRK	3.07%	-18.40%	9.18	--	--	--	--
385	West Pharmaceutical Services Inc.	WST	0.20%	4.64%	27.71	27.71	0.0014	0.000003	0.000063
386	Willis Towers Watson plc	WTW	1.62%	n/a	21.90	--	--	--	--
387	Weyerhaeuser Co	WY	2.48%	n/a	22.40	--	--	--	--
388	Wynn Resorts Ltd	WYNN	1.08%	n/a	10.53	--	--	--	--
389	Xcel Energy Inc.	XEL	3.76%	6.60%	31.56	31.56	0.0015	0.000058	0.000102
390	Exxon Mobil Corp	XOM	3.10%	n/a	470.70	--	--	--	--
391	DENTSPLY SIRONA Inc	XRAY	1.64%	8.00%	7.23	7.23	0.0004	0.000006	0.000028
392	Xylem Inc	XYL	1.45%	n/a	21.92	--	--	--	--

S&P 500 / IBES

			(a)	(b)	(c)			Weighted	
			Dividend	IBES EPS	Market Cap			Dividend	Growth
	Company	Ticker	Yield	Growth	($bil.)	Mkt. Cap.	Weight	Yield	Rate
393	YUM BRANDS INC	YUM	1.94%	15.60%	35.01	35.01	0.0017	0.000033	0.000266
394	Zimmer Biomet Holdings Inc	ZBH	0.86%	7.24%	23.45	23.45	0.0011	0.000010	0.000083
395	Zions Bancorporation National Association	ZION	5.04%	n/a	5.17	--	--	--	--
396	Zoetis Inc	ZTS	0.86%	10.53%	80.09	80.09	0.0039	0.000034	0.000412
						20,493.84	1.0000		
	Weighted Average		2.72%					**1.93%**	**9.56%**

n/a Not Available

(a) Estimated dividend for next 12 mos. divided by recent price, both as reported by www.valueline.com (retrieved Sep. 30, 2023).

(b) IBES growth rates from Refinitiv as provided by fidelity.com (retrieved Sep. 30, 2023). Eliminated growth rates greater than 20%, as well as all negative values.

(c) Recent price multiplied by no. shares outstanding, both as reported by www.valueline.com (retrieved Sep. 30, 2023).

Exhibit No. TRANSCO-607

VALUE LINE

		(a)	(b)		(c)		(d)		(e)	(f)		
		Market Return (R_m)				Market						
	Company	Div Yield	Proj. Growth	Cost of Equity	Risk-Free Rate	Risk Premium	Beta	Unadjusted K_e	Market Cap	Size Adjustment	CAPM Result	Break (B Pts)
1	Exelon Corp.	2.18%	9.67%	11.85%	4.02%	7.83%	n/a	n/a	$42,900	-0.26%	n/a	--
2	CenterPoint Energy	2.18%	9.67%	11.85%	4.02%	7.83%	1.10	12.63%	$17,800	0.45%	13.08%	0
3	PPL Corp.	2.18%	9.67%	11.85%	4.02%	7.83%	1.10	12.63%	$21,200	0.45%	13.08%	27
4	OGE Energy Corp.	2.18%	9.67%	11.85%	4.02%	7.83%	1.05	12.24%	$6,800	0.57%	12.81%	38
5	Black Hills Corp.	2.18%	9.67%	11.85%	4.02%	7.83%	1.00	11.85%	$3,800	0.58%	12.43%	4
6	NorthWestern Corp.	2.18%	9.67%	11.85%	4.02%	7.83%	0.95	11.46%	$3,400	0.93%	12.39%	39
7	ALLETE	2.18%	9.67%	11.85%	4.02%	7.83%	0.90	11.07%	$3,200	0.93%	12.00%	0
8	Avista Corp.	2.18%	9.67%	11.85%	4.02%	7.83%	0.90	11.07%	$2,800	0.93%	12.00%	0
9	Otter Tail Corp.	2.18%	9.67%	11.85%	4.02%	7.83%	0.90	11.07%	$3,500	0.93%	12.00%	9
10	Edison International	2.18%	9.67%	11.85%	4.02%	7.83%	0.95	11.46%	$26,200	0.45%	11.91%	0
11	DTE Energy Co.	2.18%	9.67%	11.85%	4.02%	7.83%	0.95	11.46%	$21,600	0.45%	11.91%	0
12	Entergy Corp.	2.18%	9.67%	11.85%	4.02%	7.83%	0.95	11.46%	$20,200	0.45%	11.91%	0
13	Pub Sv Enterprise Grp.	2.18%	9.67%	11.85%	4.02%	7.83%	0.95	11.46%	$31,500	0.45%	11.91%	26
14	Algonquin Pwr & Util	2.18%	9.67%	11.85%	4.02%	7.83%	0.90	11.07%	$3,902	0.58%	11.65%	1
15	Pinnacle West Capital	2.18%	9.67%	11.85%	4.02%	7.83%	0.90	11.07%	$9,200	0.57%	11.64%	5
16	Sempra Energy	2.18%	9.67%	11.85%	4.02%	7.83%	1.00	11.85%	$45,500	-0.26%	11.59%	7
17	Evergy Inc.	2.18%	9.67%	11.85%	4.02%	7.83%	0.90	11.07%	$13,000	0.45%	11.52%	--
18	Eversource Energy	2.18%	9.67%	11.85%	4.02%	7.83%	0.90	11.07%	$27,100	0.45%	11.52%	--
19	NextEra Energy, Inc.	2.18%	9.67%	11.85%	4.02%	7.83%	0.95	11.46%	$155,400	-0.26%	11.20%	32
20	Alliant Energy	2.18%	9.67%	11.85%	4.02%	7.83%	0.85	10.68%	$12,800	0.45%	11.13%	7
21	Ameren Corp.	2.18%	9.67%	11.85%	4.02%	7.83%	0.85	10.68%	$21,100	0.45%	11.13%	0
22	IDACORP, Inc.	2.18%	9.67%	11.85%	4.02%	7.83%	0.80	10.28%	$5,200	0.58%	10.86%	27
23	Southern Company	2.18%	9.67%	11.85%	4.02%	7.83%	0.90	11.07%	$80,800	-0.26%	10.81%	5
24	CMS Energy Corp.	2.18%	9.67%	11.85%	4.02%	7.83%	0.80	10.28%	$16,600	0.45%	10.73%	8
25	WEC Energy Group	2.18%	9.67%	11.85%	4.02%	7.83%	0.80	10.28%	$26,900	0.45%	10.73%	0
26	Dominion Energy	2.18%	9.67%	11.85%	4.02%	7.83%	0.85	10.68%	$47,700	-0.26%	10.42%	31
27	Duke Energy Corp.	2.18%	9.67%	11.85%	4.02%	7.83%	0.85	10.68%	$76,200	-0.26%	10.42%	0
28	Xcel Energy Inc.	2.18%	9.67%	11.85%	4.02%	7.83%	0.85	10.68%	$34,500	-0.26%	10.42%	0
29	American Elec Pwr	2.18%	9.67%	11.85%	4.02%	7.83%	0.80	10.28%	$40,800	-0.26%	10.02%	40
30	Consolidated Edison	2.18%	9.67%	11.85%	4.02%	7.83%	0.80	10.28%	$35,200	-0.26%	10.02%	0
31	Emera Inc.	2.18%	9.67%	11.85%	4.02%	7.83%	0.70	9.50%	$13,900	0.45%	9.95%	7
32	Fortis Inc.	2.18%	9.67%	11.85%	4.02%	7.83%	0.70	9.50%	$25,900	0.45%	9.95%	0
	Lower End (g)										**9.95%**	
	Upper End (g)										**13.08%**	
	Median (g)										**11.52%**	
	Midpoint										**11.52%**	
	Median - All Values										**11.52%**	
	Low-End Test (h)										**7.37%**	
	High-End Test (i)										**23.04%**	

(a) Weighted average for dividend-paying stocks in the S&P 500 from Exhibit No. Transco-608.
(b) EPS growth rates from Value Line (retrieved Sep. 30, 2023). Eliminated growth rates greater than 20%, as well as all negative values.
(c) Six-month average yield on 30-year Treasury bonds for Sep. 2023 from https://fred.stlouisfed.org/.
(d) The Value Line Investment Survey, Summary & Index (Oct. 6, 2023).
(e) Exhibit No. Transco-608.
(f) Kroll, 2022 CRSP Deciles Size Premium, Cost of Capital Navigator (2023).
(g) Excludes highlighted values.
(h) Average Baa utility bond yield for six-months ending Sep. 2023, plus 20% of CAPM market risk premium.
(i) 200% of Median - All Values.

Exhibit No. TRANSCO-608

S&P 500 / VALUE LINE

	(a)		(a)	(b)	(a)				
				Value	Market			Weighted	
			Dividend	Line	Cap			Dividend	Growth
	Company	Ticker	Yield	Growth	($bil.)	Mkt. Cap.	Weight	Yield	Rate
1	Agilent Technologies Inc	A	0.80%	13.50%	32.72	32.72	0.0012	0.000010	0.000167
2	Apple Inc	AAPL	0.56%	10.50%	2,676.74	2,676.74	0.1015	0.000569	0.010652
3	AbbVie Inc	ABBV	3.97%	2.00%	263.10	263.10	0.0100	0.000396	0.000199
4	Abbott Laboratories	ABT	2.11%	4.50%	168.07	168.07	0.0064	0.000134	0.000287
5	Accenture PLC	ACN	1.54%	9.00%	204.02	204.02	0.0077	0.000119	0.000696
6	Analog Devices Inc	ADI	1.96%	11.50%	87.25	87.25	0.0033	0.000065	0.000380
7	Archer-Daniels-Midland Co	ADM	2.39%	7.50%	40.43	40.43	0.0015	0.000037	0.000115
8	Automatic Data Processing Inc	ADP	2.20%	11.00%	99.11	99.11	0.0038	0.000083	0.000413
9	Ameren Corporation	AEE	3.37%	6.00%	19.66	19.66	0.0007	0.000025	0.000045
10	American Electric Power Co Inc	AEP	4.41%	6.50%	38.75	38.75	0.0015	0.000065	0.000095
11	AES Corp (The)	AES	4.34%	n/a	10.18	--	--	--	--
12	AFLAC Inc	AFL	2.27%	8.00%	45.59	45.59	0.0017	0.000039	0.000138
13	American International Group Inc	AIG	2.38%	4.00%	43.14	43.14	0.0016	0.000039	0.000065
14	Assurant Inc.	AIZ	1.95%	10.50%	7.61	7.61	0.0003	0.000006	0.000030
15	Arthur J. Gallagher & Co.	AJG	0.98%	22.00%	49.12	--	--	--	--
16	Albemarle Corp	ALB	0.94%	-4.50%	19.95	--	--	--	--
17	The Allstate Corporation	ALL	3.20%	10.50%	29.14	29.14	0.0011	0.000035	0.000116
18	Allegion PLC	ALLE	1.73%	10.00%	9.15	9.15	0.0003	0.000006	0.000035
19	Applied Materials Inc	AMAT	0.92%	5.50%	115.82	115.82	0.0044	0.000041	0.000241
20	Amcor Plc	AMCR	5.35%	11.50%	13.25	13.25	0.0005	0.000027	0.000058
21	AMETEK Inc	AME	0.68%	13.00%	34.09	34.09	0.0013	0.000009	0.000168
22	Amgen Inc	AMGN	3.30%	5.50%	143.76	143.76	0.0054	0.000180	0.000300
23	Ameriprise Financial Inc	AMP	1.64%	11.00%	33.83	33.83	0.0013	0.000021	0.000141
24	American Tower Corp	AMT	4.23%	5.00%	76.66	76.66	0.0029	0.000123	0.000145
25	Aon plc	AON	0.76%	9.50%	65.77	65.77	0.0025	0.000019	0.000237
26	A. O. Smith Corp	AOS	1.84%	9.50%	9.95	9.95	0.0004	0.000007	0.000036
27	APA Corporation	APA	2.55%	21.00%	12.63	--	--	--	--
28	Air Products and Chemicals Inc.	APD	2.47%	10.50%	62.96	62.96	0.0024	0.000059	0.000251
29	Amphenol Corp	APH	1.07%	12.50%	50.10	50.10	0.0019	0.000020	0.000237
30	Alexandria Real Estate Equities Inc.	ARE	4.96%	11.00%	17.32	17.32	0.0007	0.000033	0.000072
31	Atmos Energy Corp	ATO	3.02%	7.50%	15.73	15.73	0.0006	0.000018	0.000045
32	Activision Blizzard Inc	ATVI	1.06%	14.00%	73.67	73.67	0.0028	0.000030	0.000391
33	AvalonBay Communities Inc.	AVB	3.96%	6.00%	24.39	24.39	0.0009	0.000037	0.000055
34	Broadcom Inc	AVGO	2.22%	19.50%	342.81	342.81	0.0130	0.000288	0.002534
35	Avery Dennison Corp	AVY	1.80%	9.50%	14.72	14.72	0.0006	0.000010	0.000053
36	American Water Works Company Inc	AWK	2.33%	3.00%	24.11	24.11	0.0009	0.000021	0.000027
37	American Express Co	AXP	1.68%	8.50%	109.87	109.87	0.0042	0.000070	0.000354
38	Bank of America Corp	BAC	3.54%	4.50%	217.57	217.57	0.0082	0.000292	0.000371
39	BALL CORP	BALL	1.69%	13.00%	15.68	15.68	0.0006	0.000010	0.000077
40	Baxter International Inc	BAX	3.07%	6.00%	19.11	19.11	0.0007	0.000022	0.000043
41	Bath & Body Works Inc	BBWI	2.43%	17.50%	7.69	7.69	0.0003	0.000007	0.000051
42	Best Buy Co Inc	BBY	5.30%	3.00%	15.12	15.12	0.0006	0.000030	0.000017
43	Becton Dickinson and Co	BDX	1.45%	5.00%	75.00	75.00	0.0028	0.000041	0.000142
44	Franklin Resources Inc	BEN	4.88%	2.00%	12.26	12.26	0.0005	0.000023	0.000009
45	Brown-Forman Corp	BF/B	1.46%	15.50%	17.89	17.89	0.0007	0.000010	0.000105
46	Bunge Ltd	BG	2.48%	1.50%	16.31	16.31	0.0006	0.000015	0.000009
47	Bank of New York Mellon Corp (The)	BK	3.94%	7.00%	33.22	33.22	0.0013	0.000050	0.000088
48	Baker Hughes a GE Co	BKR	2.27%	n/a	35.66	--	--	--	--
49	Blackrock Inc	BLK	3.25%	7.50%	96.52	96.52	0.0037	0.000119	0.000274
50	Bristol-Myers Squibb Co	BMY	3.93%	30.50%	121.25	--	--	--	--
51	Broadridge Financial Solutions Inc	BR	1.79%	8.50%	21.06	21.06	0.0008	0.000014	0.000068
52	Brown & Brown Inc	BRO	0.66%	6.50%	19.81	19.81	0.0008	0.000005	0.000049
53	BorgWarner Inc	BWA	1.09%	7.00%	9.49	9.49	0.0004	0.000004	0.000025
54	Blackstone Inc	BX	2.95%	15.00%	130.82	130.82	0.0050	0.000146	0.000744
55	Boston Properties Inc	BXP	6.59%	n/a	9.33	--	--	--	--
56	Citigroup Inc	C	5.15%	2.50%	79.20	79.20	0.0030	0.000155	0.000075

S&P 500 / VALUE LINE

	(a)		(a)	(b)	(a)			Weighted	
	Company	Ticker	Dividend Yield	Value Line Growth	Market Cap ($bil.)	Mkt. Cap.	Weight	Dividend Yield	Growth Rate
57	Conagra Brands Inc	CAG	5.11%	4.50%	13.10	13.10	0.0005	0.000025	0.000022
58	Cardinal Health Inc	CAH	2.30%	7.50%	21.39	21.39	0.0008	0.000019	0.000061
59	Carrier Global Corp	CARR	1.34%	12.50%	46.24	46.24	0.0018	0.000023	0.000219
60	Caterpillar Inc	CAT	1.90%	13.00%	139.27	139.27	0.0053	0.000101	0.000686
61	Chubb Ltd	CB	1.68%	15.50%	85.51	85.51	0.0032	0.000054	0.000502
62	Cboe Global Markets Inc	CBOE	1.41%	12.50%	16.48	16.48	0.0006	0.000009	0.000078
63	Crown Castle Inc	CCI	7.12%	7.00%	39.91	39.91	0.0015	0.000108	0.000106
64	CDW Corp	CDW	1.17%	7.00%	27.05	27.05	0.0010	0.000012	0.000072
65	Celanese Corp	CE	2.26%	6.50%	13.66	13.66	0.0005	0.000012	0.000034
66	Constellation Energy Corp	CEG	1.04%	n/a	35.08	--	--	--	--
67	CF Industries Holdings Inc	CF	2.04%	7.50%	16.54	16.54	0.0006	0.000013	0.000047
68	Citizens Financial Group Inc	CFG	6.27%	6.00%	12.66	12.66	0.0005	0.000030	0.000029
69	Church & Dwight Co Inc	CHD	1.19%	6.00%	22.55	22.55	0.0009	0.000010	0.000051
70	C.H. Robinson Worldwide Inc.	CHRW	2.83%	5.50%	10.03	10.03	0.0004	0.000011	0.000021
71	The Cigna Group	CI	1.73%	11.50%	84.67	84.67	0.0032	0.000056	0.000369
72	Cincinnati Financial Corp	CINF	3.05%	10.50%	16.04	16.04	0.0006	0.000019	0.000064
73	Colgate-Palmolive Co	CL	2.74%	8.50%	58.79	58.79	0.0022	0.000061	0.000189
74	Clorox Co (The)	CLX	3.66%	11.00%	16.23	16.23	0.0006	0.000023	0.000068
75	Comerica Incorporated	CMA	6.84%	4.00%	5.48	5.48	0.0002	0.000014	0.000008
76	Comcast Corp	CMCSA	2.62%	9.00%	182.91	182.91	0.0069	0.000181	0.000624
77	CME Group Inc	CME	2.20%	7.50%	72.03	72.03	0.0027	0.000060	0.000205
78	Cummins Inc.	CMI	2.94%	10.00%	32.36	32.36	0.0012	0.000036	0.000123
79	CMS Energy Corp	CMS	3.67%	5.50%	15.49	15.49	0.0006	0.000022	0.000032
80	CenterPoint Energy Inc.	CNP	2.83%	7.50%	16.95	16.95	0.0006	0.000018	0.000048
81	Capital One Financial Corp.	COF	2.47%	4.00%	37.02	37.02	0.0014	0.000035	0.000056
82	Cooper Cos Inc (The)	COO	0.02%	10.00%	15.75	15.75	0.0006	0.000000	0.000060
83	Conocophillips	COP	2.00%	9.00%	143.46	143.46	0.0054	0.000109	0.000489
84	AMERISOURCEBERGEN CORP	COR	1.12%	9.00%	36.39	36.39	0.0014	0.000015	0.000124
85	Costco Wholesale Corp	COST	0.72%	10.50%	250.16	250.16	0.0095	0.000068	0.000996
86	Campbell Soup Co	CPB	3.80%	4.50%	12.24	12.24	0.0005	0.000018	0.000021
87	Camden Property Trust	CPT	4.40%	-3.00%	10.10	--	--	--	--
88	Cisco Systems Inc	CSCO	2.90%	8.50%	217.99	217.99	0.0083	0.000240	0.000702
89	CSX Corp	CSX	1.43%	8.50%	61.69	61.69	0.0023	0.000033	0.000199
90	Cintas Corp	CTAS	1.12%	14.00%	49.03	49.03	0.0019	0.000021	0.000260
91	Coterra Energy Inc	CTRA	2.96%	n/a	20.42	--	--	--	--
92	Cognizant Technology Solutions Corp	CTSH	1.77%	8.00%	34.21	34.21	0.0013	0.000023	0.000104
93	Corteva Inc	CTVA	1.27%	13.50%	36.31	36.31	0.0014	0.000017	0.000186
94	CVS Health Corp	CVS	3.59%	6.00%	89.68	89.68	0.0034	0.000122	0.000204
95	Chevron Corp	CVX	3.69%	19.50%	321.66	321.66	0.0122	0.000450	0.002377
96	Dominion Energy Inc	D	5.98%	2.50%	37.38	37.38	0.0014	0.000085	0.000035
97	Delta Air Lines Inc	DAL	1.08%	n/a	23.81	--	--	--	--
98	DuPont De Nemours Inc	DD	2.01%	9.50%	34.24	34.24	0.0013	0.000026	0.000123
99	DEERE & COMPANY	DE	1.43%	13.50%	108.69	108.69	0.0041	0.000059	0.000556
100	Discover Financial Services	DFS	3.23%	3.50%	21.65	21.65	0.0008	0.000027	0.000029
101	Dollar General Corporation	DG	2.23%	5.50%	23.22	23.22	0.0009	0.000020	0.000048
102	Quest Diagnostics Inc	DGX	2.33%	3.50%	13.68	13.68	0.0005	0.000012	0.000018
103	D.R. Horton Inc.	DHI	0.96%	5.00%	36.36	36.36	0.0014	0.000013	0.000069
104	Danaher Corp	DHR	0.44%	10.50%	183.19	183.19	0.0069	0.000030	0.000729
105	Digital Realty Trust Inc	DLR	4.18%	-3.00%	36.63	--	--	--	--
106	Dover Corp	DOV	1.46%	6.50%	19.51	19.51	0.0007	0.000011	0.000048
107	Dow Inc	DOW	5.72%	5.00%	36.25	36.25	0.0014	0.000079	0.000069
108	Domino's Pizza Inc	DPZ	1.33%	12.00%	13.29	13.29	0.0005	0.000007	0.000060
109	Darden Restaurants Inc	DRI	3.66%	15.00%	17.31	17.31	0.0007	0.000024	0.000098
110	DTE Energy Co	DTE	3.84%	7.00%	20.47	20.47	0.0008	0.000030	0.000054
111	Duke Energy Corp	DUK	4.65%	5.00%	68.02	68.02	0.0026	0.000120	0.000129
112	Devon Energy Corp	DVN	1.68%	10.50%	30.56	30.56	0.0012	0.000019	0.000122

S&P 500 / VALUE LINE

	(a)		(a)	(b)	(a)				
				Value	Market			Weighted	
			Dividend	Line	Cap			Dividend	Growth
	Company	Ticker	Yield	Growth	($bil.)	Mkt. Cap.	Weight	Yield	Rate
113	Electronic Arts Inc	EA	0.66%	16.00%	32.62	32.62	0.0012	0.000008	0.000198
114	eBay Inc.	EBAY	2.40%	9.50%	23.46	23.46	0.0009	0.000021	0.000084
115	Ecolab Inc.	ECL	1.25%	10.00%	48.28	48.28	0.0018	0.000023	0.000183
116	Consolidated Edison Inc.	ED	3.85%	6.00%	29.50	29.50	0.0011	0.000043	0.000067
117	Equifax Inc.	EFX	0.85%	4.50%	22.48	22.48	0.0009	0.000007	0.000038
118	Everest Group Ltd	EG	1.88%	10.00%	16.13	16.13	0.0006	0.000012	0.000061
119	Edison International	EIX	4.83%	4.50%	24.26	24.26	0.0009	0.000044	0.000041
120	Estee Lauder Cos Inc (The)	EL	1.83%	11.50%	51.73	51.73	0.0020	0.000036	0.000225
121	Elevance Health Inc	ELV	1.36%	11.50%	102.61	102.61	0.0039	0.000053	0.000447
122	Eastman Chemical Co	EMN	4.12%	6.00%	9.10	9.10	0.0003	0.000014	0.000021
123	Emerson Electric Co.	EMR	2.18%	6.50%	55.19	55.19	0.0021	0.000046	0.000136
124	EOG Resources Inc.	EOG	2.76%	15.00%	73.81	73.81	0.0028	0.000077	0.000420
125	Equinix Inc	EQIX	1.88%	13.00%	67.95	67.95	0.0026	0.000048	0.000335
126	Equity Residential	EQR	4.51%	-5.00%	22.25	--	--	--	--
127	EQT Corp	EQT	1.48%	n/a	16.69	--	--	--	--
128	Eversource Energy	ES	4.78%	6.50%	20.30	20.30	0.0008	0.000037	0.000050
129	Essex Property Trust Inc.	ESS	4.36%	2.00%	13.61	13.61	0.0005	0.000022	0.000010
130	Eaton Corp Plc	ETN	1.61%	12.50%	85.10	85.10	0.0032	0.000052	0.000403
131	Entergy corporation	ETR	4.63%	0.50%	19.56	19.56	0.0007	0.000034	0.000004
132	EVERGY INC	EVRG	4.99%	7.00%	11.65	11.65	0.0004	0.000022	0.000031
133	Exelon Corp	EXC	3.81%	1.50%	37.61	37.61	0.0014	0.000054	0.000021
134	Expeditors International of Washington Inc.	EXPD	1.20%	-1.00%	16.95	--	--	--	--
135	Extra Space Storage Inc	EXR	5.58%	5.00%	25.69	25.69	0.0010	0.000054	0.000049
136	Ford Motor Co	F	4.83%	45.50%	49.71	--	--	--	--
137	Diamondback Energy Inc	FANG	2.17%	34.00%	27.70	--	--	--	--
138	Fastenal Co	FAST	2.56%	6.50%	31.22	31.22	0.0012	0.000030	0.000077
139	Freeport-McMoRan Inc	FCX	1.85%	12.50%	53.46	53.46	0.0020	0.000037	0.000253
140	FactSet Research Systems Inc.	FDS	0.90%	10.50%	16.68	16.68	0.0006	0.000006	0.000066
141	FedEx Corp.	FDX	1.90%	7.00%	66.61	66.61	0.0025	0.000048	0.000177
142	FirstEnergy Corp.	FE	4.89%	4.00%	19.60	19.60	0.0007	0.000036	0.000030
143	Fidelity National Information Services Inc	FIS	3.85%	23.00%	32.75	--	--	--	--
144	Fifth Third Bancorp	FITB	5.68%	4.50%	17.25	17.25	0.0007	0.000037	0.000029
145	FMC Corp.	FMC	3.69%	10.00%	8.35	8.35	0.0003	0.000012	0.000032
146	Fox Corp	FOXA	1.67%	8.50%	7.81	7.81	0.0003	0.000005	0.000025
147	Federal Realty Investment Trust	FRT	4.81%	n/a	7.39	--	--	--	--
148	Fortive Corp	FTV	0.38%	16.00%	26.11	26.11	0.0010	0.000004	0.000158
149	General Dynamics Corp	GD	2.50%	9.50%	60.33	60.33	0.0023	0.000057	0.000217
150	General Electric Co	GE	0.29%	26.50%	120.32	--	--	--	--
151	GE HealthCare Technologies Inc	GEHC	0.18%	n/a	30.95	--	--	--	--
152	Gen Digital Inc	GEN	2.83%	8.50%	11.31	11.31	0.0004	0.000012	0.000036
153	Gilead Sciences Inc	GILD	4.00%	13.50%	93.38	93.38	0.0035	0.000142	0.000478
154	General Mills Inc.	GIS	3.69%	5.00%	37.20	37.20	0.0014	0.000052	0.000070
155	Globe Life Inc	GL	0.83%	9.00%	10.31	10.31	0.0004	0.000003	0.000035
156	Corning Inc	GLW	3.68%	15.00%	25.99	25.99	0.0010	0.000036	0.000148
157	General Motors Co	GM	1.09%	8.50%	45.36	45.36	0.0017	0.000019	0.000146
158	Genuine Parts Co	GPC	2.63%	10.00%	20.28	20.28	0.0008	0.000020	0.000077
159	GLOBAL PAYMENTS INC	GPN	0.92%	13.50%	30.00	30.00	0.0011	0.000010	0.000154
160	Garmin Ltd	GRMN	2.83%	5.50%	20.14	20.14	0.0008	0.000022	0.000042
161	Goldman Sachs Group Inc (The)	GS	3.40%	1.00%	106.67	106.67	0.0040	0.000137	0.000040
162	Grainger (W.W.) Inc	GWW	1.10%	11.00%	34.59	34.59	0.0013	0.000014	0.000144
163	Halliburton Co	HAL	1.83%	30.00%	36.39	--	--	--	--
164	Hasbro Inc.	HAS	4.23%	8.50%	9.18	9.18	0.0003	0.000015	0.000030
165	Huntington Bancshares Inc	HBAN	5.96%	10.50%	15.06	15.06	0.0006	0.000034	0.000060
166	HCA Healthcare Inc	HCA	0.98%	9.50%	66.90	66.90	0.0025	0.000025	0.000241
167	Home Depot Inc. (The)	HD	2.77%	6.50%	302.18	302.18	0.0115	0.000317	0.000744
168	Hess Corp	HES	1.22%	23.50%	46.98	--	--	--	--

S&P 500 / VALUE LINE

	(a)		(a)	(b)	(a)			Weighted	
	Company	Ticker	Dividend Yield	Value Line Growth	Market Cap ($bil.)	Mkt. Cap.	Weight	Dividend Yield	Growth Rate
169	Hartford Financial Services Group Inc. (The)	HIG	2.40%	8.00%	21.69	21.69	0.0008	0.000020	0.000066
170	Huntington Ingalls Industries Inc	HII	2.42%	8.50%	8.16	8.16	0.0003	0.000007	0.000026
171	Hilton Worldwide Holdings Inc	HLT	0.40%	37.00%	39.27	--	--	--	--
172	Honeywell International Inc	HON	2.23%	11.00%	122.66	122.66	0.0046	0.000104	0.000511
173	Hewlett Packard Enterprise Co	HPE	2.76%	8.00%	22.28	22.28	0.0008	0.000023	0.000068
174	HP Inc	HPQ	4.09%	9.00%	25.40	25.40	0.0010	0.000039	0.000087
175	Hormel Foods Corp	HRL	2.89%	5.50%	20.78	20.78	0.0008	0.000023	0.000043
176	Host Hotels & Resorts Inc	HST	4.48%	n/a	11.44	--	--	--	--
177	Hershey Co (The)	HSY	2.38%	9.50%	40.91	40.91	0.0016	0.000037	0.000147
178	Humana Inc.	HUM	0.76%	12.50%	60.28	60.28	0.0023	0.000017	0.000286
179	Howmet Aerospace Inc	HWM	0.35%	22.50%	19.06	--	--	--	--
180	International Business Machines Corp	IBM	4.73%	4.00%	127.81	127.81	0.0048	0.000229	0.000194
181	Intercontinental Exchange Inc	ICE	1.53%	6.00%	62.84	62.84	0.0024	0.000036	0.000143
182	IDEX Corp	IEX	1.23%	7.00%	15.73	15.73	0.0006	0.000007	0.000042
183	International Flavors & Fragrances Inc	IFF	4.75%	5.50%	17.40	17.40	0.0007	0.000031	0.000036
184	Intel Corp	INTC	1.41%	-1.00%	148.88	--	--	--	--
185	Intuit Inc.	INTU	0.70%	14.50%	143.20	143.20	0.0054	0.000038	0.000787
186	International Paper Co	IP	5.22%	6.00%	12.27	12.27	0.0005	0.000024	0.000028
187	Interpublic Group of Cos Inc (The)	IPG	4.47%	8.50%	11.03	11.03	0.0004	0.000019	0.000036
188	Ingersoll Rand Inc	IR	0.13%	12.50%	25.77	25.77	0.0010	0.000001	0.000122
189	Iron Mountain Inc	IRM	4.37%	6.50%	17.35	17.35	0.0007	0.000029	0.000043
190	Illinois Tool Works Inc.	ITW	2.43%	11.00%	69.64	69.64	0.0026	0.000064	0.000290
191	Invesco Ltd	IVZ	5.65%	6.50%	6.51	6.51	0.0002	0.000014	0.000016
192	Jacobs Solutions Inc	J	0.76%	11.50%	17.19	17.19	0.0007	0.000005	0.000075
193	J.B. Hunt Transport Services Inc.	JBHT	0.91%	9.00%	19.48	19.48	0.0007	0.000007	0.000066
194	Johnson Controls International Plc	JCI	2.78%	11.50%	36.20	36.20	0.0014	0.000038	0.000158
195	Henry (Jack) & Associates Inc	JKHY	1.38%	7.00%	11.02	11.02	0.0004	0.000006	0.000029
196	Johnson & Johnson	JNJ	3.09%	5.00%	375.05	375.05	0.0142	0.000440	0.000711
197	Juniper Networks Inc	JNPR	3.27%	10.50%	8.93	8.93	0.0003	0.000011	0.000036
198	JPMorgan Chase & Co	JPM	2.90%	8.50%	421.44	421.44	0.0160	0.000463	0.001358
199	Kellogg Co	K	4.03%	3.00%	20.37	20.37	0.0008	0.000031	0.000023
200	Keurig Dr Pepper Inc	KDP	2.72%	12.00%	44.11	44.11	0.0017	0.000046	0.000201
201	KeyCorp	KEY	7.62%	-0.50%	10.07	--	--	--	--
202	The Kraft Heinz Co	KHC	4.76%	4.00%	41.32	41.32	0.0016	0.000074	0.000063
203	Kimco Realty Corp	KIM	5.46%	11.00%	10.90	10.90	0.0004	0.000023	0.000045
204	KLA Corp	KLAC	1.13%	13.50%	62.53	62.53	0.0024	0.000027	0.000320
205	Kimberly-Clark Corp	KMB	3.93%	7.00%	40.87	40.87	0.0015	0.000061	0.000108
206	Kinder Morgan Inc.	KMI	6.82%	17.50%	36.94	36.94	0.0014	0.000095	0.000245
207	Coca-Cola Co (The)	KO	3.29%	7.50%	242.08	242.08	0.0092	0.000302	0.000688
208	Kroger Co. (The)	KR	2.59%	6.00%	32.19	32.19	0.0012	0.000032	0.000073
209	Kenvue Inc	KVUE	3.98%	n/a	69.25	--	--	--	--
210	Loews Corp	L	0.39%	20.50%	14.28	--	--	--	--
211	Leidos Holdings Inc	LDOS	1.57%	7.00%	12.66	12.66	0.0005	0.000008	0.000034
212	Lennar Corp	LEN	1.38%	3.50%	32.26	32.26	0.0012	0.000017	0.000043
213	Laboratory Corp of America Holdings	LH	1.43%	-2.50%	17.81	--	--	--	--
214	L3Harris Technologies Inc	LHX	2.64%	19.50%	32.93	32.93	0.0012	0.000033	0.000243
215	Linde Plc	LIN	1.37%	8.50%	181.69	181.69	0.0069	0.000094	0.000585
216	LKQ Corporation	LKQ	2.22%	8.00%	13.25	13.25	0.0005	0.000011	0.000040
217	Eli Lilly and Co	LLY	0.84%	19.00%	509.89	509.89	0.0193	0.000163	0.003672
218	Lockheed Martin Corp	LMT	3.08%	7.00%	102.99	102.99	0.0039	0.000120	0.000273
219	Alliant Energy Corporation	LNT	3.74%	6.50%	12.24	12.24	0.0005	0.000017	0.000030
220	Lowe's Cos Inc	LOW	2.12%	8.00%	119.95	119.95	0.0045	0.000096	0.000364
221	Lam Research Corp	LRCX	1.28%	4.00%	82.87	82.87	0.0031	0.000040	0.000126
222	Southwest Airlines Co.	LUV	2.73%	n/a	16.12	--	--	--	--
223	Lamb Weston Holdings Inc	LW	1.23%	15.50%	13.48	13.48	0.0005	0.000006	0.000079
224	LyondellBasell Industries NV	LYB	5.28%	2.00%	30.70	30.70	0.0012	0.000061	0.000023

S&P 500 / VALUE LINE

	(a)		(a)	(b)	(a)			Weighted	
	Company	Ticker	Dividend Yield	Value Line Growth	Market Cap ($bil.)	Mkt. Cap.	Weight	Dividend Yield	Growth Rate
225	Mastercard Inc	MA	0.61%	16.00%	373.03	373.03	0.0141	0.000086	0.002262
226	Mid-America Apartment Communities Inc	MAA	4.35%	-12.50%	15.01	--	--	--	--
227	Marriott International Inc	MAR	1.06%	23.00%	58.62	--	--	--	--
228	Masco Corporation	MAS	2.23%	6.50%	12.02	12.02	0.0005	0.000010	0.000030
229	McDonald's Corp	MCD	2.44%	10.50%	191.99	191.99	0.0073	0.000178	0.000764
230	Microchip Technology Inc	MCHP	2.33%	10.00%	42.49	42.49	0.0016	0.000038	0.000161
231	McKesson Corp	MCK	0.57%	9.00%	58.66	58.66	0.0022	0.000013	0.000200
232	Moody's Corp.	MCO	0.97%	6.00%	58.02	58.02	0.0022	0.000021	0.000132
233	Mondelez International Inc	MDLZ	2.45%	11.50%	94.41	94.41	0.0036	0.000088	0.000412
234	Medtronic PLC	MDT	3.61%	7.50%	104.26	104.26	0.0040	0.000143	0.000296
235	Metlife Inc.	MET	3.31%	8.50%	47.31	47.31	0.0018	0.000059	0.000152
236	McCormick & Co Inc	MKC	2.06%	4.50%	18.99	18.99	0.0007	0.000015	0.000032
237	MarketAxess Holdings Inc	MKTX	1.35%	10.50%	8.05	8.05	0.0003	0.000004	0.000032
238	Martin Marietta Materials Inc.	MLM	0.73%	12.00%	25.37	25.37	0.0010	0.000007	0.000115
239	Marsh & McLennan Companies Inc	MMC	1.49%	9.00%	94.00	94.00	0.0036	0.000053	0.000321
240	3M Co	MMM	6.42%	4.50%	51.68	51.68	0.0020	0.000126	0.000088
241	Altria Group Inc	MO	9.32%	5.50%	74.62	74.62	0.0028	0.000264	0.000156
242	Mosaic Company (The)	MOS	2.25%	-1.50%	11.83	--	--	--	--
243	Marathon Petroleum Corp	MPC	1.98%	14.50%	60.51	60.51	0.0023	0.000045	0.000333
244	Monolithic Power Systems Inc	MPWR	0.87%	15.00%	22.07	22.07	0.0008	0.000007	0.000125
245	Merck & Co Inc	MRK	2.84%	8.50%	261.24	261.24	0.0099	0.000281	0.000842
246	Marathon Oil Corp	MRO	1.57%	22.50%	16.20	--	--	--	--
247	Morgan Stanley	MS	4.16%	7.50%	135.32	135.32	0.0051	0.000214	0.000385
248	MSCI Inc	MSCI	1.08%	12.50%	40.58	40.58	0.0015	0.000017	0.000192
249	Microsoft Corp	MSFT	0.95%	12.50%	2,345.95	2,345.95	0.0889	0.000845	0.011114
250	Motorola Solutions Inc	MSI	1.29%	11.00%	45.47	45.47	0.0017	0.000022	0.000190
251	M&T Bank Corp	MTB	4.19%	6.50%	20.98	20.98	0.0008	0.000033	0.000052
252	Micron Technology Inc.	MU	0.68%	9.50%	74.51	74.51	0.0028	0.000019	0.000268
253	Nasdaq Inc	NDAQ	1.81%	6.00%	23.87	23.87	0.0009	0.000016	0.000054
254	Nordson Corp	NDSN	1.28%	9.00%	12.72	12.72	0.0005	0.000006	0.000043
255	NextEra Energy Inc	NEE	3.44%	9.50%	115.94	115.94	0.0044	0.000151	0.000417
256	Newmont Corporation	NEM	4.33%	8.00%	29.37	29.37	0.0011	0.000048	0.000089
257	NiSource Inc	NI	4.13%	6.00%	10.20	10.20	0.0004	0.000016	0.000023
258	Nike Inc	NKE	1.42%	17.50%	146.30	146.30	0.0055	0.000079	0.000970
259	Northrop Grumman Corp	NOC	1.74%	9.50%	66.60	66.60	0.0025	0.000044	0.000240
260	NRG Energy Inc	NRG	3.92%	-2.50%	8.83	--	--	--	--
261	Norfolk Southern Corp	NSC	2.74%	8.50%	44.71	44.71	0.0017	0.000046	0.000144
262	NetApp Inc	NTAP	2.77%	8.00%	15.84	15.84	0.0006	0.000017	0.000048
263	Northern Trust Corp	NTRS	4.32%	5.50%	14.38	14.38	0.0005	0.000024	0.000030
264	Nucor Corp	NUE	1.33%	1.00%	38.89	38.89	0.0015	0.000020	0.000015
265	NVIDIA Corporation	NVDA	0.04%	40.00%	1,074.43	--	--	--	--
266	News Corp	NWSA	1.00%	n/a	7.61	--	--	--	--
267	NXP Semiconductors NV	NXPI	2.03%	8.50%	51.54	51.54	0.0020	0.000040	0.000166
268	Realty Income Corp.	O	6.23%	5.50%	35.40	35.40	0.0013	0.000084	0.000074
269	Old Dominion Freight Line Inc	ODFL	0.40%	9.00%	44.71	44.71	0.0017	0.000007	0.000152
270	Organon & Co	OGN	6.45%	n/a	4.44	--	--	--	--
271	ONEOK Inc	OKE	6.12%	12.00%	36.95	36.95	0.0014	0.000086	0.000168
272	Omnicom Group Inc	OMC	3.76%	7.00%	14.72	14.72	0.0006	0.000021	0.000039
273	Oracle Corp	ORCL	1.51%	9.50%	290.15	290.15	0.0110	0.000166	0.001045
274	Otis Worldwide Corp	OTIS	1.69%	10.50%	33.07	33.07	0.0013	0.000021	0.000132
275	Occidental Petroleum Corp	OXY	1.26%	17.00%	57.40	57.40	0.0022	0.000027	0.000370
276	Paramount Global	PARA	1.55%	-1.00%	7.87	--	--	--	--
277	Paycom Software Inc	PAYC	0.58%	19.50%	15.68	15.68	0.0006	0.000003	0.000116
278	Paychex Inc.	PAYX	3.21%	9.50%	41.66	41.66	0.0016	0.000051	0.000150
279	PACCAR Inc	PCAR	3.47%	17.00%	44.45	44.45	0.0017	0.000058	0.000286
280	Healthpeak Properties Inc	PEAK	6.54%	14.50%	10.04	10.04	0.0004	0.000025	0.000055

S&P 500 / VALUE LINE

	(a)		(a)	(b)	(a)			Weighted	
	Company	Ticker	Dividend Yield	Value Line Growth	Market Cap ($bil.)	Mkt. Cap.	Weight	Dividend Yield	Growth Rate
281	Public Service Enterprise Group Inc	PEG	4.11%	4.00%	28.40	28.40	0.0011	0.000044	0.000043
282	PepsiCo Inc	PEP	3.07%	6.00%	233.25	233.25	0.0088	0.000271	0.000530
283	Pfizer Inc	PFE	4.94%	2.00%	187.28	187.28	0.0071	0.000351	0.000142
284	Principal Financial Group Inc	PFG	3.61%	5.50%	17.42	17.42	0.0007	0.000024	0.000036
285	Procter & Gamble Co (The)	PG	2.58%	6.00%	343.78	343.78	0.0130	0.000336	0.000782
286	Progressive Corp (The)	PGR	0.29%	12.00%	81.50	81.50	0.0031	0.000009	0.000371
287	Parker-Hannifin Corp	PH	1.55%	11.50%	50.06	50.06	0.0019	0.000029	0.000218
288	PulteGroup Inc	PHM	0.89%	8.00%	16.25	16.25	0.0006	0.000005	0.000049
289	Packaging Corp Of America	PKG	3.26%	9.00%	13.81	13.81	0.0005	0.000017	0.000047
290	Prologis Inc	PLD	3.24%	2.50%	103.67	103.67	0.0039	0.000127	0.000098
291	Philip Morris International Inc	PM	5.62%	5.50%	143.72	143.72	0.0054	0.000306	0.000300
292	The PNC Financial Services Group Inc	PNC	5.05%	6.50%	48.89	48.89	0.0019	0.000094	0.000120
293	Pentair plc	PNR	1.36%	12.00%	10.69	10.69	0.0004	0.000006	0.000049
294	Pinnacle West Capital Corp	PNW	4.76%	2.50%	8.35	8.35	0.0003	0.000015	0.000008
295	Pool Corp	POOL	1.24%	8.50%	13.91	13.91	0.0005	0.000007	0.000045
296	PPG Industries Inc.	PPG	2.00%	3.00%	30.57	30.57	0.0012	0.000023	0.000035
297	PPL Corp	PPL	4.07%	8.00%	17.37	17.37	0.0007	0.000027	0.000053
298	Prudential Financial Inc	PRU	5.27%	5.00%	34.45	34.45	0.0013	0.000069	0.000065
299	Public Storage	PSA	4.55%	7.50%	46.33	46.33	0.0018	0.000080	0.000132
300	Phillips 66	PSX	3.62%	15.50%	53.50	53.50	0.0020	0.000073	0.000314
301	Quanta Services Inc.	PWR	0.17%	15.00%	27.16	27.16	0.0010	0.000002	0.000154
302	Pioneer Natural Resources Co	PXD	3.21%	8.50%	53.52	53.52	0.0020	0.000065	0.000172
303	QUALCOMM Inc.	QCOM	2.88%	5.50%	123.94	123.94	0.0047	0.000135	0.000258
304	Regency Centers Corp.	REG	4.37%	10.50%	10.76	10.76	0.0004	0.000018	0.000043
305	Regions Financial Corp	RF	5.58%	9.50%	16.14	16.14	0.0006	0.000034	0.000058
306	Robert Half Inc	RHI	2.82%	9.50%	7.85	7.85	0.0003	0.000008	0.000028
307	Raymond James Financial Inc.	RJF	1.67%	12.50%	20.97	20.97	0.0008	0.000013	0.000099
308	Ralph Lauren Corp	RL	2.58%	12.50%	7.58	7.58	0.0003	0.000007	0.000036
309	Resmed Inc	RMD	1.30%	14.00%	21.75	21.75	0.0008	0.000011	0.000115
310	Rockwell Automation Inc.	ROK	1.65%	11.00%	32.84	32.84	0.0012	0.000021	0.000137
311	ROLLINS INC	ROL	1.39%	9.50%	18.40	18.40	0.0007	0.000010	0.000066
312	Roper Technologies Inc	ROP	0.56%	8.00%	51.68	51.68	0.0020	0.000011	0.000157
313	Ross Stores Inc	ROST	1.23%	11.50%	38.25	38.25	0.0014	0.000018	0.000167
314	Republic Services Inc.	RSG	1.50%	12.50%	45.08	45.08	0.0017	0.000026	0.000214
315	RTX Corp	RTX	3.28%	14.50%	104.75	104.75	0.0040	0.000130	0.000576
316	Revvity Inc	RVTY	0.25%	-1.50%	13.74	--	--	--	--
317	SBA Communications Corp	SBAC	1.75%	22.00%	21.70	--	--	--	--
318	Starbucks Corp	SBUX	2.32%	15.50%	104.54	104.54	0.0040	0.000092	0.000614
319	Schwab (Charles) Corp	SCHW	1.91%	10.00%	99.98	99.98	0.0038	0.000072	0.000379
320	Sealed Air Corp	SEE	2.43%	7.50%	4.75	4.75	0.0002	0.000004	0.000013
321	Sherwin-Williams Co (The)	SHW	0.95%	9.50%	65.59	65.59	0.0025	0.000024	0.000236
322	The J M Smucker Company	SJM	3.45%	6.00%	12.55	12.55	0.0005	0.000016	0.000029
323	Schlumberger Ltd	SLB	1.72%	26.00%	82.86	--	--	--	--
324	Snap-On Inc	SNA	2.62%	6.00%	13.50	13.50	0.0005	0.000013	0.000031
325	Southern Co (The)	SO	4.33%	7.00%	70.58	70.58	0.0027	0.000116	0.000187
326	Simon Property Group Inc.	SPG	7.50%	3.50%	35.35	35.35	0.0013	0.000100	0.000047
327	S&P Global Inc	SPGI	0.99%	7.50%	116.27	116.27	0.0044	0.000043	0.000331
328	Sempra	SRE	3.59%	7.00%	42.81	42.81	0.0016	0.000058	0.000114
329	Steris Plc	STE	0.95%	9.50%	21.65	21.65	0.0008	0.000008	0.000078
330	Steel Dynamics Inc	STLD	1.60%	8.00%	17.76	17.76	0.0007	0.000011	0.000054
331	State Street Corporation	STT	4.17%	9.00%	21.34	21.34	0.0008	0.000034	0.000073
332	Seagate Technology Holdings plc	STX	4.25%	7.00%	13.71	13.71	0.0005	0.000022	0.000036
333	Constellation Brands Inc	STZ	1.42%	5.50%	46.07	46.07	0.0017	0.000025	0.000096
334	Stanley Black & Decker Inc	SWK	3.88%	3.50%	12.81	12.81	0.0005	0.000019	0.000017
335	Skyworks Solutions Inc	SWKS	2.76%	3.00%	15.71	15.71	0.0006	0.000016	0.000018
336	Synchrony Financial	SYF	3.27%	4.50%	12.78	12.78	0.0005	0.000016	0.000022

S&P 500 / VALUE LINE

	(a)		(a)	(b)	(a)			Weighted	
	Company	Ticker	Dividend Yield	Value Line Growth	Market Cap ($bil.)	Mkt. Cap.	Weight	Dividend Yield	Growth Rate
337	Stryker Corp	SYK	1.15%	7.00%	103.78	103.78	0.0039	0.000045	0.000275
338	Sysco Corporation	SYY	3.03%	18.50%	33.35	33.35	0.0013	0.000038	0.000234
339	AT&T Inc	T	7.39%	1.50%	107.38	107.38	0.0041	0.000301	0.000061
340	Molson Coors Beverage Company	TAP	2.64%	35.00%	12.78	--	--	--	--
341	Bio-Techne Corp	TECH	0.47%	11.00%	10.77	10.77	0.0004	0.000002	0.000045
342	TE Connectivity Ltd	TEL	1.91%	9.00%	38.78	38.78	0.0015	0.000028	0.000132
343	Teradyne Inc	TER	0.48%	12.50%	15.47	15.47	0.0006	0.000003	0.000073
344	Truist Financial Corp	TFC	7.83%	6.00%	38.11	38.11	0.0014	0.000113	0.000087
345	Teleflex Inc	TFX	0.69%	10.50%	9.23	9.23	0.0003	0.000002	0.000037
346	Target Corp	TGT	3.98%	11.50%	51.04	51.04	0.0019	0.000077	0.000222
347	TJX Companies Inc (The)	TJX	1.50%	14.50%	101.69	101.69	0.0039	0.000058	0.000559
348	Thermo Fisher Scientific Inc	TMO	0.28%	8.50%	195.36	195.36	0.0074	0.000020	0.000629
349	Tapestry Inc	TPR	4.87%	16.50%	6.59	6.59	0.0002	0.000012	0.000041
350	Targa Resources Corp	TRGP	2.33%	n/a	19.18	--	--	--	--
351	T. Rowe Price Group Inc	TROW	4.73%	2.00%	23.52	23.52	0.0009	0.000042	0.000018
352	Travelers Companies Inc (The)	TRV	2.45%	7.50%	37.39	37.39	0.0014	0.000035	0.000106
353	Tractor Supply Co	TSCO	2.03%	11.50%	22.09	22.09	0.0008	0.000017	0.000096
354	Tyson Foods Inc.	TSN	3.80%	-11.50%	17.95	--	--	--	--
355	Trane Technologies plc	TT	1.48%	13.00%	46.34	46.34	0.0018	0.000026	0.000228
356	Texas Instruments Inc	TXN	3.12%	3.50%	144.38	144.38	0.0055	0.000171	0.000192
357	Textron Inc	TXT	0.10%	16.00%	15.48	15.48	0.0006	0.000001	0.000094
358	UDR Inc	UDR	4.93%	15.50%	11.75	11.75	0.0004	0.000022	0.000069
359	Universal Health Services Inc.	UHS	0.64%	6.00%	8.72	8.72	0.0003	0.000002	0.000020
360	Unitedhealth Group Inc	UNH	1.49%	12.00%	467.03	467.03	0.0177	0.000264	0.002124
361	Union Pacific Corp	UNP	2.55%	6.50%	124.10	124.10	0.0047	0.000120	0.000306
362	United Parcel Service Inc	UPS	4.16%	5.50%	133.18	133.18	0.0050	0.000210	0.000278
363	United Rentals Inc.	URI	1.33%	17.00%	30.36	30.36	0.0012	0.000015	0.000196
364	U.S. Bancorp	USB	5.81%	4.00%	51.47	51.47	0.0020	0.000113	0.000078
365	Visa Inc	V	0.88%	13.50%	468.15	468.15	0.0177	0.000157	0.002395
366	V.F. Corp	VFC	6.79%	3.00%	6.87	6.87	0.0003	0.000018	0.000008
367	VICI Properties Inc	VICI	5.70%	8.00%	29.49	29.49	0.0011	0.000064	0.000089
368	Valero Energy Corp	VLO	2.88%	4.00%	50.04	50.04	0.0019	0.000055	0.000076
369	Vulcan Materials Co	VMC	0.85%	9.50%	26.84	26.84	0.0010	0.000009	0.000097
370	VERISK ANALYTICS INC	VRSK	0.58%	9.00%	34.26	34.26	0.0013	0.000007	0.000117
371	Ventas Inc.	VTR	4.41%	23.50%	16.95	--	--	--	--
372	Viatris Inc	VTRS	5.27%	-1.50%	11.83	--	--	--	--
373	Verizon Communications Inc	VZ	8.21%	1.50%	136.25	136.25	0.0052	0.000424	0.000077
374	Westinghouse Air Brake Technologies Corp	WAB	0.64%	10.50%	19.04	19.04	0.0007	0.000005	0.000076
375	Walgreens Boots Alliance Inc	WBA	8.68%	1.00%	19.20	19.20	0.0007	0.000063	0.000007
376	WEC Energy Group Inc	WEC	3.87%	6.00%	25.41	25.41	0.0010	0.000037	0.000058
377	Welltower Inc	WELL	3.13%	12.00%	42.49	42.49	0.0016	0.000050	0.000193
378	Wells Fargo & Co	WFC	3.43%	10.50%	149.50	149.50	0.0057	0.000194	0.000595
379	Whirlpool Corp	WHR	5.61%	-0.50%	7.33	--	--	--	--
380	Waste Management Inc.	WM	1.84%	7.00%	61.75	61.75	0.0023	0.000043	0.000164
381	Williams Cos Inc. (The)	WMB	5.31%	10.50%	40.98	40.98	0.0016	0.000083	0.000163
382	Walmart Inc	WMT	1.43%	6.50%	430.46	430.46	0.0163	0.000233	0.001060
383	Berkley (W.R.) Corp	WRB	0.69%	15.00%	16.35	16.35	0.0006	0.000004	0.000093
384	WestRock Company	WRK	3.07%	8.50%	9.18	9.18	0.0003	0.000011	0.000030
385	West Pharmaceutical Services Inc.	WST	0.20%	7.00%	27.71	27.71	0.0011	0.000002	0.000074
386	Willis Towers Watson plc	WTW	1.62%	9.50%	21.90	21.90	0.0008	0.000013	0.000079
387	Weyerhaeuser Co	WY	2.48%	-2.50%	22.40	--	--	--	--
388	Wynn Resorts Ltd	WYNN	1.08%	n/a	10.53	--	--	--	--
389	Xcel Energy Inc.	XEL	3.76%	6.00%	31.56	31.56	0.0012	0.000045	0.000072
390	Exxon Mobil Corp	XOM	3.10%	7.00%	470.70	470.70	0.0178	0.000552	0.001249
391	DENTSPLY SIRONA Inc	XRAY	1.64%	10.00%	7.23	7.23	0.0003	0.000004	0.000027
392	Xylem Inc	XYL	1.45%	6.50%	21.92	21.92	0.0008	0.000012	0.000054

S&P 500 / VALUE LINE

	(a)		(a)	(b)	(a)			Weighted	
	Company	**Ticker**	**Dividend Yield**	**Value Line Growth**	**Market Cap ($bil.)**	**Mkt. Cap.**	**Weight**	**Dividend Yield**	**Growth Rate**
393	YUM BRANDS INC	YUM	1.94%	11.50%	35.01	35.01	0.0013	0.000026	0.000153
394	Zimmer Biomet Holdings Inc	ZBH	0.86%	6.50%	23.45	23.45	0.0009	0.000008	0.000058
395	Zions Bancorporation National Association	ZION	5.04%	4.00%	5.17	5.17	0.0002	0.000010	0.000008
396	Zoetis Inc	ZTS	0.86%	9.00%	80.09	80.09	0.0030	0.000026	0.000273
						26,384.69	1.0000		
	Weighted Average							**2.18%**	**9.67%**

n/a Not Available

(a) Estimated dividend for next 12 mos. divided by recent price, both as reported by www.valueline.com (retrieved Sep. 30, 2023).

(b) EPS growth rates from Value Line (retrieved Sep. 30, 2023). Eliminated growth rates greater than 20%, as well as all negative values.

(c) Recent price multiplied by no. shares outstanding, both as reported by www.valueline.com (retrieved Sep. 30, 2023).

Exhibit No. TRANSCO-609

IMPLIED ROE

Current Equity Risk Premium				
(a)	Average Yield Over Study Period	5.34%		
(b)	Baa Utility Bond Yield	5.80%		
	Change in Bond Yield	0.46%		
(c)	Risk Premium/Interest Rate Relationship	-0.6808		
	Adjustment to Average Risk Premium	-0.31%		
(a)	Average Risk Premium over Study Period	4.89%		
	Adjusted Risk Premium	**4.58%**		
Implied Cost of Equity				
(b)	Baa Utility Bond Yield	5.80%		
	Adjusted Equity Risk Premium	4.58%		
	Risk Premium Cost of Equity	**10.38%**		
Implied Cost of Equity Range				
	Range Spread			
(d)	Two-step DCF	3.87%		
	CAPM			
(e)	IBES-based	2.99%		
(f)	Value Line-based	3.13%		
	Average	3.06%		
(g)	Expected Earnings	7.48%		
(h)	Average Range Spread	4.80%		
(i)	**Risk Premium Range**	**7.98%**	**--**	**12.78%**

(a) See Exhibit No. Transco-609, pp. 2-4.
(b) Six-month average yield for Apr. 2023 to Sep. 2023 based on data from Moody's Investors Service, www.moodys.credittrends.com.
(c) See Exhibit No. Transco-609, p. 5.
(d) Difference between high and low estimates from Exhibit No. Transco-604, p. 1.
(e) Difference between high and low estimates from Exhibit No. Transco-605.
(f) Difference between high and low estimates from Exhibit No. Transco-607.
(g) Difference between high and low estimates from Exhibit No. Transco-610.
(h) Average of range spreads for DCF, CAPM, and Expected Earnings.
(i) Risk Premium cost of equity -/+ one-half of averge range spread.

ALLOWED ROE

Date	Docket No.	Utility	Base ROE	Baa Bond Yield	Implied Risk Premium
Feb-06	ER05-515	Baltimore Gas & Elec.	10.80%	6.07%	4.73%
Feb-06	ER05-515	Baltimore Gas & Elec.	11.30%	6.07%	5.23%
Jun-06	ER05-925	Westar Energy Inc.	10.80%	6.36%	4.44%
Feb-07	ER07-284	San Diego Gas & Elec.	11.35%	6.14%	5.21%
May-07	ER06-787	Idaho Power Co.	10.70%	6.15%	4.55%
May-07	ER06-1320	Wisconsin Elec. Pwr. Co.	11.00%	6.15%	4.85%
Sep-07	EL06-109	Duquesne Light Co.	10.90%	6.41%	4.49%
Sep-07	ER07-583	Commonwealth Edison Co.	11.00%	6.41%	4.59%
Oct-07	ER08-92	Virginia Elec. & Power Co.	10.90%	6.43%	4.47%
Nov-07	ER08-374	Atlantic Path 15	10.65%	6.44%	4.21%
Nov-07	ER08-396	Westar Energy Inc.	10.80%	6.44%	4.36%
Nov-07	ER08-413	Startrans IO, LLC	10.65%	6.44%	4.21%
Nov-07	ER08-375	So. Cal Edison	10.55%	6.44%	4.11%
Jan-08	ER08-686	Pepco Holdings, Inc.	11.30%	6.41%	4.89%
Feb-08	ER07-562	Trans-Allegheny	11.20%	6.42%	4.78%
Apr-08	ER07-1142	Arizona Public Service Co.	10.75%	6.54%	4.21%
May-08	ER08-1207	Virginia Elec. & Power Co.	10.90%	6.62%	4.28%
May-08	ER08-1233	Public Service Elec. & Gas	11.18%	6.62%	4.56%
Jun-08	ER08-1402	Duquesne Light Co.	10.90%	6.69%	4.21%
Jun-08	ER08-1423	Pepco Holdings, Inc.	10.80%	6.69%	4.11%
Jul-08	ER09-35/36	Tallgrass / Prairie Wind	10.80%	6.80%	4.00%
Sep-08	ER09-249	Public Service Elec. & Gas	11.18%	6.94%	4.24%
Sep-08	ER09-187	So. Cal Edison	10.53%	6.94%	3.59%
Sep-08	ER09-548	ITC Great Plains	10.66%	6.94%	3.72%
Sep-08	ER09-75	Pioneer Transmission	10.54%	6.94%	3.60%
Nov-08	ER08-1584	Black Hills Power Co.	10.80%	7.60%	3.20%
Dec-08	ER09-745	Baltimore Gas & Elec.	10.80%	7.80%	3.00%
Jan-09	ER07-1069	AEP - SPP Zone	10.70%	7.95%	2.75%
Jan-09	ER09-681	Green Power Express	10.78%	7.95%	2.83%
Mar-09	ER08-281	Oklahoma Gas & Elec.	10.60%	8.22%	2.38%
Apr-09	ER08-1457	PPL Elec. Utilities Corp.	11.10%	8.13%	2.97%
Apr-09	ER08-1457	PPL Elec. Utilities Corp.	11.14%	8.13%	3.01%
Apr-09	ER08-1457	PPL Elec. Utilities Corp.	11.18%	8.13%	3.05%
Apr-09	ER08-1588	Kentucky Utilities Co.	11.00%	8.13%	2.87%
Jul-09	ER08-552	Niagara Mohawk Pwr. Co.	11.00%	7.62%	3.38%
Aug-09	ER08-313	Southwestern Public Service Co.	10.77%	7.39%	3.38%
Aug-09	ER09-628	National Grid Generation LLC	10.75%	7.08%	3.67%
Sep-09	ER10-160	So. Cal Edison	10.33%	7.08%	3.25%

ALLOWED ROE

Date	Docket No.	Utility	Base ROE	Baa Bond Yield	Implied Risk Premium
Mar-10	ER08-1329	AEP - PJM Zone	10.99%	6.20%	4.79%
Aug-10	ER10-230	Kansas City Power & Light Co.	10.60%	6.05%	4.55%
Aug-10	ER10-355	AEP Transcos - PJM	10.99%	6.05%	4.94%
Aug-10	ER10-355	AEP Transcos - SPP	10.70%	6.05%	4.65%
Sep-10	ER11-1952	So. Cal Edison	10.30%	5.93%	4.37%
Oct-10	EL11-13	Atlantic Grid Operations	10.09%	5.84%	4.25%
Oct-10	ER11-2895	Duke Energy Carolinas	10.20%	5.84%	4.36%
Nov-10	ER11-2377	Northern Pass Transmission	10.40%	5.79%	4.61%
Mar-11	ER10-1377	Northern States Power Co. (MN)	10.40%	5.94%	4.46%
Apr-11	ER10-516	South Carolina Elec. & Gas	10.55%	6.00%	4.55%
Apr-11	ER10-992	Northern States Power Co.	10.20%	6.00%	4.20%
May-11	ER11-4069	RITELine	9.93%	5.98%	3.95%
Aug-11	ER12-296	PJM & PSE&G	11.18%	5.71%	5.47%
Sep-11	ER08-386	PATH	10.40%	5.57%	4.83%
Dec-11	ER11-2560	Entergy Arkansas	10.20%	5.21%	4.99%
Mar-12	ER12-2300	Public Service Co. of Colorado	10.25%	5.08%	5.17%
Mar-12	ER11-2853	Public Service Co. of Colorado	10.10%	5.08%	5.02%
Mar-12	ER11-2853	Public Service Co. of Colorado	10.40%	5.08%	5.32%
Nov-12	ER12-1378	Cleco Power LLC	10.50%	4.74%	5.76%
Jan-13	ER12-778	Puget Sound Energy	9.80%	4.65%	5.15%
Jan-13	ER12-778	Puget Sound Energy - PSANI	10.30%	4.65%	5.65%
Jan-13	ER12-2554	Transource Missouri	9.80%	4.65%	5.15%
Feb-13	ER11-3643	PacifiCorp	9.80%	4.62%	5.18%
Feb-13	ER12-1650	Maine Public Service Co.	9.75%	4.62%	5.13%
Jul-13	ER11-3697	So. Cal Edison	9.30%	4.82%	4.48%
Jan-14	ER13-941	San Diego Gas & Electric	9.55%	5.22%	4.33%
Aug-14	ER12-1589	Public Service Co. of Colorado	9.72%	4.76%	4.96%
Sep-14	ER12-91	Duke Energy Ohio	10.88%	4.73%	6.15%
Nov-14	ER13-1508	Entergy Arkansas	10.37%	4.71%	5.66%
Jan-15	EL12-101	Niagara Mohawk Power Corp.	9.80%	4.66%	5.14%
Feb-15	ER13-685	Public Service Company of New Mexico	10.00%	4.62%	5.38%
Mar-15	ER14-1661	MidAmerican Central Calif. Transco	9.80%	4.58%	5.22%
May-15	EL14-93	Westar Energy	9.80%	4.58%	5.22%
Jun-15	EL12-39	Duke Energy Florida	10.00%	4.65%	5.35%
Jun-15	ER15-303	American Transmission Systems, Inc.	10.56%	4.65%	5.91%
Jun-15	ER15-303	American Transmission Systems, Inc.	9.88%	4.65%	5.23%
Jul-15	ER14-192	Southwestern Public Service Co.	10.00%	4.79%	5.21%
Jul-15	ER13-2428	Kentucky Utilities Co.	10.25%	4.79%	5.46%

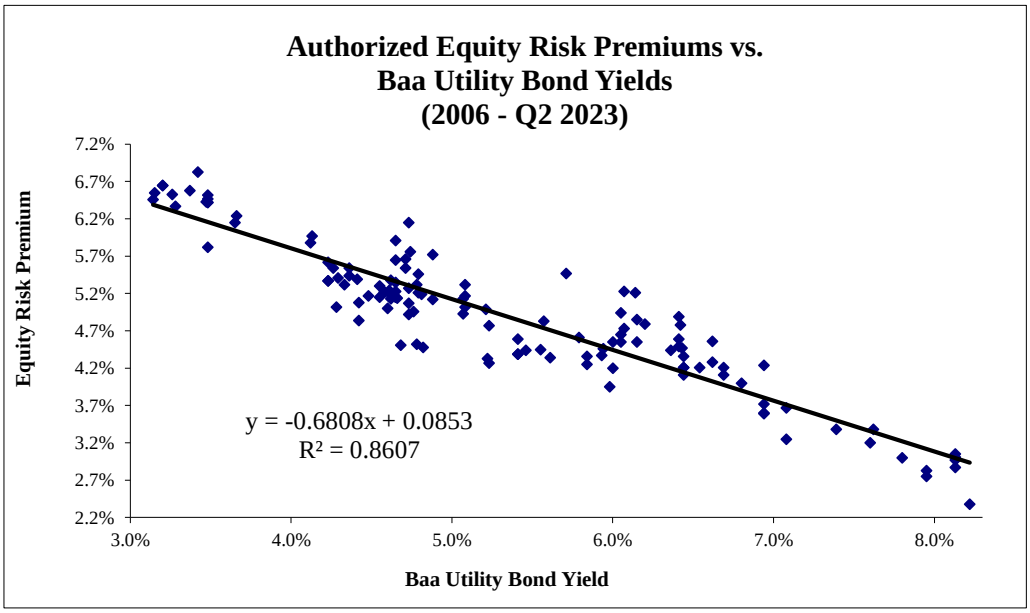
ALLOWED ROE

Date	Docket No.	Utility	Base ROE	Baa Bond Yield	Implied Risk Premium
Sep-15	ER14-2751	Xcel Energy Southwest Trans. Co. (Gen)	10.20%	5.07%	5.13%
Sep-15	ER14-2751	Xcel Energy Southwest Trans. Co. (Zn 11)	10.00%	5.07%	4.93%
Oct-15	EL15-27	Baltimore G&E / Pepco Holdings, Inc.	10.00%	5.23%	4.77%
Oct-15	ER15-572	New York Transco LLC	9.50%	5.23%	4.27%
Dec-15	ER15-2237	Kanstar Transmission, LLC	9.80%	5.41%	4.39%
Dec-15	ER15-2114	Transource West Virginia, LLC	10.00%	5.41%	4.59%
Jan-16	ER15-1809	ATX Southwest, LLC	9.90%	5.46%	4.44%
Mar-16	ER15-958	Transource Kansas, LLC	9.80%	5.41%	4.39%
Jul-16	EL16-30	Duke Energy Carolinas	10.00%	4.73%	5.27%
Jul-16	ER15-1682	TransCanyon DCR, LLC	9.80%	4.73%	5.07%
Jul-16	ER15-2069	NorthWestern Corp.	9.65%	4.73%	4.92%
Aug-16	ER15-2239	NextEra Energy Transmission West	9.70%	4.55%	5.15%
Aug-16	ER16-453	Northeast Transmission Development	9.85%	4.55%	5.30%
Sep-16	ER15-2594	South Central MCN LLC	9.80%	4.41%	5.39%
May-17	ER15-1429	Emera Maine	9.60%	4.60%	5.00%
Jul-17	ER15-572	New York Transco, LLC	9.65%	4.48%	5.17%
Aug-17	ER17-856	Rockland Electric Co.	9.50%	4.42%	5.08%
Aug-17	ER16-2320-002	Pacific Gas & Electric Co.	9.26%	4.42%	4.84%
Sep-17	ER17-211	Mid-Atlantic Interstate Transmission	9.80%	4.36%	5.44%
Sep-17	ER17-419	Transource Pennsylvania/Maryland, LLC	9.90%	4.36%	5.54%
Nov-17	ER16-2720	NextEra Energy Trans. Southwest LLC	9.80%	4.26%	5.54%
Feb-18	ER16-2716	NextEra Energy Trans. MidAtlantic, LLC	9.60%	4.23%	5.37%
Feb-18	ER17-706	GridLiance West Transco LLC	9.60%	4.23%	5.37%
Feb-18	EL17-13	AEP East Cos.	9.85%	4.23%	5.62%
Mar-18	ER17-135	DesertLink, LLC	9.30%	4.28%	5.02%
Apr-18	ER16-2719	NextEra Energy Trans. New York LLC	9.65%	4.33%	5.32%
Sep-18	ER18-1639	Constellation Mystic Power, LLC	9.19%	4.68%	4.51%
Nov-18	ER18-1225	Southwestern Electric Power Co.	10.10%	4.78%	5.32%
Nov-18	ER19-605	Republic Transmission, LLC	9.30%	4.78%	4.52%
Feb-19	ER19-1396	AEP West Cos.	10.00%	4.88%	5.12%
Feb-19	ER19-1427	Alabama Power Co.	10.60%	4.88%	5.72%
Apr-19	EL18-58	Oklahoma G&E	10.00%	4.81%	5.19%
May-19	ER18-1953	Gulf Power Co.	10.25%	4.71%	5.54%
Jun-19	ER17-1519	PECO	9.85%	4.61%	5.24%
Aug-19	ER18-169-002	Southern California Edison	9.70%	4.29%	5.41%
Sep-19	ER19-221	San Diego Gas & Electric Co.	10.10%	4.13%	5.97%
Feb-20	ER19-697-001	Cheyenne Light, Fuel and Power	9.90%	3.66%	6.24%
Jun-20	ER19-1553	Southern California Edison Co.	9.80%	3.65%	6.15%

ALLOWED ROE

Date	Docket No.	Utility	Base ROE	Baa Bond Yield	Implied Risk Premium
Sep-20	ER19-13	Pacific Gas & Electric Co.	9.95%	3.37%	6.58%
Oct-20	ER19-1756	NorthWestern Corp.	9.65%	3.28%	6.37%
Nov-20	ER20-1150	Dayton Power and Light Co.	9.85%	3.20%	6.65%
Dec-20	ER21-2198	Avista Corp.	9.60%	3.14%	6.46%
Jan-21	ER20-227	Jersey Central Power & Light Co.	9.70%	3.15%	6.55%
Feb-21	ER21-1319	Duke Energy Progress	9.85%	3.20%	6.65%
Jun-21	ER21-2450	Public Service Elec. & Gas Co.	9.90%	3.47%	6.43%
Jul-21	ER21-1065	TransCanyon Western Development, LLC	9.90%	3.48%	6.42%
Jul-21	ER21-669	Morongo Transmission LLC	9.30%	3.48%	5.82%
Jul-21	EL20-48	PPL Elec. Utilities Corp.	9.90%	3.48%	6.42%
Jul-21	EL20-48	PPL Elec. Utilities Corp.	9.95%	3.48%	6.47%
Jul-21	EL20-48	PPL Elec. Utilities Corp.	10.00%	3.48%	6.52%
Nov-21	ER19-2019	Tucson Electric Power Co.	9.79%	3.26%	6.53%
Feb-22	ER20-2878	Pacific Gas & Electric Co.	10.25%	3.42%	6.83%
May-22	ER22-2125	Duke Energy Progress	10.00%	4.12%	5.88%
Nov-22	ER22-233	Portland General Electric Co.	10.00%	5.55%	4.45%
Dec-22	ER21-253	South FirstEnergy Operating Cos.	9.95%	5.61%	4.34%
		Average	**10.23%**	**5.34%**	**4.89%**

REGRESSION RESULTS



Regression Statistics	
Multiple R	0.927755682
R Square	0.860730606
Adjusted R Square	0.859650998
Standard Error	0.003514199
Observations	131

Coefficients	
Intercept	0.085296833
X Variable 1	-0.68078475

ADJUSTMENTS TO FERC CASE SET

Date	Docket No.	Utility	Base ROE	Explanation
Added to FERC Case Set				
May-08	ER08-1233	Public Service Elec. & Gas	11.18%	Original formula rate order. Commission accepted 11.18% ROE based on applicant's DCF analysis using May 2008 study period. 124 FERC ¶ 61,303 at P 1 (2008).
Apr-09	ER08-1457	PPL Elec. Utilities Corp.	11.18%	Order authorized ROEs of 11.10%, 11.14%, and 11.18%. Opinion No. 569-B included 11.10% and 11.14% values. No basis to distinguish 11.18% or to exclude it because it applies to a future date, as do the majority of ROEs approved by the Commission.
Sep-15	ER14-2751	Xcel Energy Southwest Trans. Co. (Zn 11)	10.00%	Settlement specifies separate ROE for Zone 11 under SPP OATT. 153 FERC ¶ 63,019 (2015). Commission failed to include.
Aug-17	ER16-2320-002	Pacific Gas & Electric Co.	9.26%	Add observation corresponding to 178 FERC ¶ 61,175 (2022).
Sep-18	ER18-1639	Constellation Mystic Power, LLC	9.19%	Add observation corresponding to 177 FERC ¶ 61,106 (2021).
Apr-19	EL18-58	Oklahoma G&E	10.00%	Offer of Settlement dated 5/21/19. 167 FERC ¶ 63,048 (2019).
May-19	ER18-1953	Gulf Power Co.	10.25%	Offer of Settlement dated 6/20/19. 169 FERC ¶ 61,023 (2019).
Jun-19	ER17-1519	PECO	9.85%	Offer of Settlement dated 7/22/19. 168 FERC ¶ 63,038 (2019).
Aug-19	ER18-169-002	Southern California Edison	9.70%	Offer of Settlement dated 9/19/19. 169 FERC ¶ 63,009 (2019).
Sep-19	ER19-221	San Diego Gas & Electric Co.	10.10%	Offer of Settlement dated 10/18/19. 170 FERC ¶ 63,010 (2020).
Feb-20	ER19-697-001	Cheyenne Light, Fuel and Power	9.90%	Offer of Settlement dated 3/20/20. 171 FERC ¶ 63,012 (2020).
Jun-20	ER19-1553	Southern California Edison Co.	9.80%	Offer of Settlement dated 7/01/20. 172 FERC ¶ 63,011 (2020).
Sep-20	ER19-13	Pacific Gas & Electric Co.	9.95%	Offer of Settlement dated 10/15/20. 173 FERC ¶ 63,024 (2020).
Oct-20	ER19-1756	NorthWestern Corp.	9.65%	Offer of Settlement dated 11/16/20. 174 FERC ¶ 61,074 (2020).
Nov-20	ER20-1150	Dayton Power and Light Co.	9.85%	Offer of Settlement dated 12/10/20. 175 FERC ¶ 61,021 (2020).
Dec-20	ER21-2198	Avista Corp.	9.60%	Approved 9/30/21 based on study period ending Dec. 2020. 176 FERC ¶ 61,222 (2020).
Jan-21	ER20-227	Jersey Central Power & Light Co.	9.70%	Offer of Settlement dated 02/02/21. 175 FERC ¶ 61,023 (2020).
Feb-21	ER21-1319	Duke Energy Progress	9.85%	Offer of Settlement dated 03/10/21. 175 FERC ¶ 63,006 (2021).
Jun-21	ER21-2450	Public Service Elec. & Gas Co.	9.90%	Offer of Settlement dated 07/14/21. 177 FERC ¶ 61,115 (2021).
Jul-21	ER21-1065	TransCanyon Western Development, LLC	9.90%	Offer of Settlement dated 08/13/21. 176 FERC ¶ 63,025 (2021).
Jul-21	ER21-669	Morongo Transmission LLC	9.30%	Offer of Settlement dated 08/16/21. 178 FERC ¶ 61,062 (2021).
Jul-21	EL20-48	PPL Elec. Utilities Corp.	9.90%	Offer of Settlement dated 08/20/21. Effective 05/21/20-05/31/22. 176 FERC ¶ 63,028 (2021).
Jul-21	EL20-48	PPL Elec. Utilities Corp.	9.95%	Offer of Settlement dated 08/20/21. Effective 06/1/22-05/31/23. 176 FERC ¶ 63,028 (2021).
Jul-21	EL20-48	PPL Elec. Utilities Corp.	10.00%	Offer of Settlement dated 08/20/21. Effective 06/1/23. 176 FERC ¶ 63,028 (2021).
Nov-21	ER19-2019	Tucson Electric Power Co.	9.79%	Offer of Settlement dated 12/22/21. 178 FERC ¶ 61,229 (2022).
Feb-22	ER20-2878	Pacific Gas & Electric Co.	10.25%	Offer of Settlement dated 03/31/22. 179 FERC ¶ 61,167 (2022).
May-22	ER22-2125	Duke Energy Progress	10.00%	Offer of Settlement dated 06/16/22. 181 FERC ¶ 61,111 (2022).
Nov-22	ER22-233	Portland General Electric Co.	10.00%	Offer of Settlement dated 12/19/22. 182 FERC ¶ 63,008 (2023).
Dec-22	ER21-253	South FirstEnergy Operating Cos.	9.95%	Offer of Settlement dated 01/18/23. 182 FERC ¶ 63,016 (2023).

ADJUSTMENTS TO FERC CASE SET

Date	Docket No.	Utility	Base ROE	Explanation
Removed from FERC Case Set				
Jun-15	EL14-12	MISO Complaint I	10.02%	Vacated by Court of Appeals, No. 16-1325 (Aug. 9, 2022).
Dec-15	ER15-45	MISO Complaint II	10.05%	Remove ROE attributed to Complaint II, which was dismissed. No ROE was established or approved in that proceeding.
Jul-16	ER15-1976	East River	9.60%	Remove observation for publicly-owned entity.
Aug-16	ER16-835	NYPA	8.95%	Remove observation for publicly-owned entity.
Sep-16	ER15-1775	Basin Electric	9.60%	Remove observation for publicly-owned entity.
Jan-17	ER16-204	Tri-State	9.30%	Remove observation for publicly-owned entity.
Feb-17	ER16-209	Central Power	9.50%	Remove observation for publicly-owned entity.
Feb-17	ER16-1774	Western Farmers	8.77%	Remove observation for publicly-owned entity.
Feb-17	ER16-1546	Arkansas Electric	8.00%	Remove observation for publicly-owned entity.
Aug-17	ER17-426	Denison	9.60%	Remove observation for publicly-owned entity.
Nov-17	ER17-1610	Mountrail-Williams	9.60%	Remove observation for publicly-owned entity.
Nov-17	ER17-428	Vermillion	9.60%	Remove observation for publicly-owned entity.
Feb-19	ER19-1396	PSCo, SWPECo, AEP Oklahoma, et al.	10.00%	Remove duplicate observation previously reflected as "AEP West."
Other Corrections to FERC Case Set				
Sep-08	ER09-187	So. Cal Edison	10.53%	Remove post-record period adjustment from 10.04% authorized ROE to match ROE with study period interest rate. 139 FERC ¶ 61,042 at P 41 (2012) .

Exhibit No. TRANSCO-610

ELECTRIC GROUP

	Company	(a) Expected Return on Common Equity	(b) Adjustment Factor	(c) Adjusted Return on Common Equity	Break (B Pts)
1	Algonquin Pwr & Util	n/a	n/a	n/a	--
2	NextEra Energy, Inc.	14.50%	1.0446	15.15%	41
3	Southern Company	14.50%	1.0163	14.74%	49
4	Edison International	14.00%	1.0178	14.25%	95
5	Pub Sv Enterprise Grp.	13.00%	1.0231	13.30%	9
6	WEC Energy Group	13.00%	1.0163	13.21%	8
7	OGE Energy Corp.	13.00%	1.0102	13.13%	26
8	DTE Energy Co.	12.50%	1.0299	12.87%	47
9	CMS Energy Corp.	12.00%	1.0333	12.40%	8
10	Alliant Energy	12.00%	1.0267	12.32%	59
11	Otter Tail Corp.	11.50%	1.0199	11.73%	1
12	Sempra Energy	11.50%	1.0191	11.72%	39
13	Dominion Energy	11.00%	1.0298	11.33%	1
14	American Elec Pwr	11.00%	1.0289	11.32%	5
15	Xcel Energy Inc.	11.00%	1.0249	11.27%	45
16	Emera Inc.	10.50%	1.0309	10.82%	51
17	Ameren Corp.	10.00%	1.0309	10.31%	--
18	CenterPoint Energy	10.00%	1.0289	10.29%	2
19	Eversource Energy	10.00%	1.0254	10.25%	4
20	Exelon Corp.	10.00%	1.0195	10.20%	5
21	Evergy Inc.	10.00%	1.0142	10.14%	6
22	IDACORP, Inc.	9.50%	1.0221	9.71%	43
23	Pinnacle West Capital	9.50%	1.0206	9.70%	1
24	PPL Corp.	9.50%	1.0178	9.67%	3
25	ALLETE	9.00%	1.0217	9.20%	47
26	Consolidated Edison	9.00%	1.0115	9.10%	10
27	Duke Energy Corp.	9.00%	1.0111	9.10%	0
28	Entergy Corp.	8.50%	1.0293	8.75%	35
29	Black Hills Corp.	8.00%	1.0257	8.21%	54
30	NorthWestern Corp.	8.00%	1.0190	8.15%	6
31	Avista Corp.	7.50%	1.0260	7.70%	45
32	Fortis Inc.	7.50%	1.0225	7.67%	3
	Lower End (d)			**7.67%**	
	Upper End (d)			**15.15%**	
	Median (d)			**10.31%**	
	Midpoint			**11.41%**	
	Median - All Values			**10.31%**	
	Low-End Test (e)			**7.33%**	
	High-End Test (f)			**20.62%**	

(a) The Value Line Investment Survey (Jul. 21, Aug. 11 and Sep. 8, 2023).
(b) Computed using the formula 2*(1+5-Yr. Change in Equity)/(2+5 Yr. Change in Equity).
(c) (a) x (b).
(d) Excludes highlighted values.
(e) Average Baa utility bond yield for six-months ending Sep. 2023, plus 20% of average IBES and Value Line CAPM market risk premiu
(f) 200% of Median - All Values.

Exhibit No. TRANSCO-611

NON-UTILITY GROUP

			(a)	(b)	(c)	(c)	(d)
			S&P	**Moody's**	**Value Line**		
			Corporate	**Long-term**	**Safety**	**Financial**	
	Company	**Industry**	**Rating**	**Rating**	**Rank**	**Strength**	**Beta**
1	Abbott Labs.	Med Supp Non-Invasive	AA-	Aa3	1	A++	0.90
2	Air Products & Chem.	Chemical (Diversified)	A	A2	1	A++	0.90
3	Amdocs Ltd.	IT Services	BBB	Baa2	1	A	0.90
4	Amgen	Biotechnology	BBB+	Baa1	1	A++	0.70
5	Apple Inc.	Computers/Peripherals	AA+	Aaa	1	A++	1.00
6	Archer Daniels Midl'd	Food Processing	A	A2	1	A+	0.95
7	Becton, Dickinson	Med Supp Invasive	BBB	Baa2	1	A++	0.75
8	Bristol-Myers Squibb	Drug	A+	A2	1	A++	0.80
9	Brown & Brown	Financial Svcs. (Div.)	BBB-	Baa3	1	A	0.95
10	Brown-Forman 'B'	Beverage	A-	A1	1	A	0.85
11	Church & Dwight	Household Products	BBB+	A3	1	A+	0.60
12	Cisco Systems	Telecom. Equipment	AA-	A1	1	A++	0.90
13	Coca-Cola	Beverage	A+	A1	1	A++	0.85
14	Colgate-Palmolive	Household Products	AA-	Aa3	1	A	0.65
15	Comcast Corp.	Cable TV	A-	A3	1	A+	0.85
16	Costco Wholesale	Retail Store	A+	Aa3	1	A++	0.65
17	Danaher Corp.	Diversified Co.	A-	A3	1	A+	0.90
18	Gen'l Mills	Food Processing	BBB	Baa2	1	A+	0.55
19	Gilead Sciences	Drug	BBB+	A3	1	A	0.60
20	Hershey Co.	Food Processing	A	A1	1	A+	0.75
21	Home Depot	Retail Building Supply	A	A2	1	A++	0.95
22	Hormel Foods	Food Processing	A-	A1	1	A+	0.55
23	Intercontinental Exch.	Brokers & Exchanges	A-	A3	1	A	0.95
24	Johnson & Johnson	Med Supp Non-Invasive	AAA	Aaa	1	A++	0.75
25	Kimberly-Clark	Household Products	A	A2	1	A	0.70
26	Lilly (Eli)	Drug	A+	A1	1	A++	0.75
27	Lockheed Martin	Aerospace/Defense	A-	A2	1	A++	0.90
28	Marsh & McLennan	Financial Svcs. (Div.)	A-	A3	1	A+	0.95
29	McCormick & Co.	Food Processing	BBB	Baa2	1	A+	0.80
30	McDonald's Corp.	Restaurant	BBB+	Baa1	1	A++	0.90
31	McKesson Corp.	Med Supp Non-Invasive	BBB+	Baa1	1	A++	0.85
32	Merck & Co.	Drug	A+	A1	1	A++	0.75
33	Microsoft Corp.	Computer Software	AAA	Aaa	1	A++	0.90
34	Mondelez Int'l	Food Processing	BBB	Baa1	1	A+	0.80
35	NewMarket Corp.	Chemical (Specialty)	BBB+	Baa2	1	A	0.75
36	Northrop Grumman	Aerospace/Defense	BBB+	Baa1	1	A++	0.75
37	Oracle Corp.	Computer Software	BBB	Baa2	1	A++	0.85
38	PepsiCo, Inc.	Beverage	A+	A1	1	A++	0.75
39	Pfizer, Inc.	Drug	A+	A1	1	A++	0.80
40	Procter & Gamble	Household Products	AA-	Aa3	1	A++	0.70
41	Progressive Corp.	Insurance (Prop/Cas.)	A	A2	1	A	0.75
42	Republic Services	Environmental	BBB+	Baa1	1	A	0.85
43	Sherwin-Williams	Retail Building Supply	BBB	Baa2	1	A+	0.95
44	Smucker (J.M.)	Food Processing	BBB	Baa2	1	A+	0.60
45	Texas Instruments	Semiconductor	A+	Aa3	1	A++	0.90
46	Thermo Fisher Sci.	Precision Instrument	A-	A3	1	A	0.90
47	Travelers Cos.	Insurance (Prop/Cas.)	A	A2	1	A+	0.95
48	Walmart Inc.	Retail Store	AA	Aa2	1	A++	0.60
49	Waste Management	Environmental	A-	Baa1	1	A	0.75
	Average		**A**	**A2**	**1**	**A+**	**0.80**

(a) www.standardandpoors.com (retrieved Oct. 4, 2023).
(b) www.moodys.com (retrieved Oct. 4, 2023).
(c) The Value Line Investment Survey (various editions as of Oct. 6, 2023).
(d) The Value Line Investment Survey, Summary & Index (Oct. 6, 2023).

Exhibit No. TRANSCO-612

NON-UTILITY GROUP

		(a)	(b)	(c)	(d)
				IBES	
	Company	**6-Mo. Div. Yield**	**Adjusted Yield**	**EPS Growth**	**DCF Result**
1	Abbott Labs.	1.93%	1.91%	-2.10%	-0.19%
2	Air Products & Chem.	2.42%	2.54%	10.27%	12.81%
3	Amdocs Ltd.	1.88%	1.99%	11.10%	13.09%
4	Amgen	3.58%	3.61%	1.69%	5.30%
5	Apple Inc.	0.53%	0.55%	7.40%	7.95%
6	Archer Daniels Midl'd	2.31%	2.30%	-0.60%	1.70%
7	Becton, Dickinson	1.39%	1.45%	9.60%	11.05%
8	Bristol-Myers Squibb	3.57%	3.62%	2.43%	6.05%
9	Brown & Brown	0.68%	0.73%	13.22%	13.95%
10	Brown-Forman 'B'	1.27%	1.35%	13.50%	14.85%
11	Church & Dwight	1.15%	1.19%	7.10%	8.29%
12	Cisco Systems	3.02%	3.12%	6.41%	9.53%
13	Coca-Cola	3.01%	3.11%	6.38%	9.49%
14	Colgate-Palmolive	2.53%	2.63%	7.93%	10.56%
15	Comcast Corp.	2.75%	2.85%	7.38%	10.23%
16	Costco Wholesale	0.76%	0.79%	8.49%	9.28%
17	Danaher Corp.	0.50%	0.49%	-1.40%	-0.91%
18	Gen'l Mills	2.94%	3.05%	7.67%	10.72%
19	Gilead Sciences	3.82%	3.90%	4.43%	8.33%
20	Hershey Co.	1.82%	1.90%	8.90%	10.80%
21	Home Depot	2.73%	2.74%	1.10%	3.84%
22	Hormel Foods	2.77%	2.83%	4.50%	7.33%
23	Intercontinental Exch.	1.52%	1.57%	6.80%	8.37%
24	Johnson & Johnson	2.90%	2.99%	5.75%	8.74%
25	Kimberly-Clark	3.53%	3.71%	9.76%	13.47%
26	Lilly (Eli)	1.00%	1.12%	24.22%	25.34%
27	Lockheed Martin	2.64%	2.80%	12.28%	15.08%
28	Marsh & McLennan	1.41%	1.48%	10.50%	11.98%
29	McCormick & Co.	1.83%	1.90%	8.10%	10.00%
30	McDonald's Corp.	2.12%	2.22%	9.20%	11.42%
31	McKesson Corp.	0.57%	0.59%	9.97%	10.56%
32	Merck & Co.	2.65%	2.81%	11.95%	14.76%
33	Microsoft Corp.	0.84%	0.90%	14.40%	15.30%
34	Mondelez Int'l	2.18%	2.27%	8.98%	11.25%
35	NewMarket Corp.	2.12%	2.20%	7.70%	9.90%
36	Northrop Grumman	1.64%	1.66%	1.90%	3.56%
37	Oracle Corp.	1.47%	1.54%	10.84%	12.38%
38	PepsiCo, Inc.	2.71%	2.83%	8.54%	11.37%
39	Pfizer, Inc.	4.42%	4.10%	-14.65%	-10.55%
40	Procter & Gamble	2.49%	2.59%	7.62%	10.21%
41	Progressive Corp.	0.30%	0.34%	25.10%	25.44%
42	Republic Services	1.39%	1.45%	8.89%	10.34%
43	Sherwin-Williams	0.97%	1.03%	12.68%	13.71%
44	Smucker (J.M.)	2.83%	2.93%	7.21%	10.14%
45	Texas Instruments	2.89%	3.03%	10.00%	13.03%
46	Thermo Fisher Sci.	0.26%	0.27%	6.08%	6.35%
47	Travelers Cos.	2.31%	2.47%	13.75%	16.22%
48	Walmart Inc.	1.47%	1.53%	7.36%	8.89%
49	Waste Management	1.71%	1.79%	8.46%	10.25%
	Lower End (e)				**7.95%**
	Upper End (e)				**15.08%**
	Median (e)				**10.56%**
	Midpoint				**11.51%**
	Low-End Test (f)				**7.33%**
	High-End Test (g)				**15.15%**

(a) Six-month average dividend yield for Apr. to Sep. 2023.
(b) Six-month average yield x [1 + 0.5 x EPS Growth].
(c) www.finance.yahoo.com (retrieved Oct. 3, 2023).
(d) Sum of adjusted yield and growth rate.
(e) Excludes highlighted values.
(f) 6-mo. avg. Baa utility bonds yield for Sep. 2023, plus 20% of average CAPM risk premium.
(g) Highest cost of equity estimate for Electric Group from Exhibit No. Transco-610.

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		(a)	(b)	(c)	(d)
			Value Line		
	Company	**6-Mo. Div. Yield**	**Adjusted Yield**	**EPS Growth**	**DCF Result**
1	Abbott Labs.	1.93%	1.97%	4.50%	6.47%
2	Air Products & Chem.	2.43%	2.54%	10.50%	13.04%
3	Amdocs Ltd.	1.85%	1.95%	7.00%	8.95%
4	Amgen	3.66%	3.69%	6.00%	9.69%
5	Apple Inc.	0.56%	0.56%	10.50%	11.06%
6	Archer Daniels Midl'd	2.31%	2.39%	7.50%	9.89%
7	Becton, Dickinson	1.44%	1.42%	5.00%	6.42%
8	Bristol-Myers Squibb	3.41%	n/a	n/a	n/a
9	Brown & Brown	0.74%	0.71%	6.50%	7.21%
10	Brown-Forman 'B'	1.27%	1.35%	12.50%	13.85%
11	Church & Dwight	1.20%	1.18%	6.00%	7.18%
12	Cisco Systems	3.12%	3.15%	8.50%	11.65%
13	Coca-Cola	2.98%	3.13%	7.50%	10.63%
14	Colgate-Palmolive	2.52%	2.63%	8.50%	11.13%
15	Comcast Corp.	2.93%	2.87%	9.00%	11.87%
16	Costco Wholesale	0.76%	0.80%	10.50%	11.30%
17	Danaher Corp.	0.44%	0.52%	11.00%	11.52%
18	Gen'l Mills	2.69%	3.00%	4.50%	7.50%
19	Gilead Sciences	3.74%	4.08%	13.50%	17.58%
20	Hershey Co.	1.66%	1.90%	9.50%	11.40%
21	Home Depot	2.74%	2.82%	6.50%	9.32%
22	Hormel Foods	2.68%	2.87%	7.50%	10.37%
23	Intercontinental Exch.	1.57%	1.57%	7.00%	8.57%
24	Johnson & Johnson	2.90%	2.98%	5.00%	7.98%
25	Kimberly-Clark	3.52%	3.66%	7.00%	10.66%
26	Lilly (Eli)	1.17%	1.09%	19.00%	20.09%
27	Lockheed Martin	2.57%	2.73%	7.00%	9.73%
28	Marsh & McLennan	1.40%	1.47%	9.00%	10.47%
29	McCormick & Co.	1.87%	1.87%	4.50%	6.37%
30	McDonald's Corp.	2.15%	2.23%	10.50%	12.73%
31	McKesson Corp.	0.57%	0.59%	9.00%	9.59%
32	Merck & Co.	2.66%	2.76%	8.50%	11.26%
33	Microsoft Corp.	0.91%	0.89%	12.50%	13.39%
34	Mondelez Int'l	2.16%	2.28%	10.00%	12.28%
35	NewMarket Corp.	2.27%	2.13%	0.50%	2.63%
36	Northrop Grumman	1.57%	1.72%	9.50%	11.22%
37	Oracle Corp.	1.55%	1.54%	10.00%	11.54%
38	PepsiCo, Inc.	2.65%	2.79%	5.50%	8.29%
39	Pfizer, Inc.	4.19%	4.47%	2.00%	6.47%
40	Procter & Gamble	2.53%	2.57%	6.00%	8.57%
41	Progressive Corp.	0.30%	0.32%	12.00%	12.32%
42	Republic Services	1.42%	1.47%	12.50%	13.97%
43	Sherwin-Williams	1.02%	1.00%	7.00%	8.00%
44	Smucker (J.M.)	2.72%	2.91%	6.00%	8.91%
45	Texas Instruments	2.83%	2.93%	3.00%	5.93%
46	Thermo Fisher Sci.	0.25%	0.27%	9.50%	9.77%
47	Travelers Cos.	2.20%	2.40%	7.50%	9.90%
48	Walmart Inc.	1.53%	1.52%	6.50%	8.02%
49	Waste Management	1.73%	1.77%	6.50%	8.27%
	Lower End (e)				**7.50%**
	Upper End (e)				**13.97%**
	Median (e)				**10.55%**
	Midpoint				**10.74%**
	Low-End Test (f)				**7.33%**
	High-End Test (g)				**15.15%**

(a) Six-month average dividend yield for Apr. to Sep. 2023.
(b) Six-month average yield x [1 + 0.5 x EPS Growth].
(c) The Value Line Investment Survey (various editions as of Oct. 6, 2023).
(d) Sum of adjusted yield and growth rate.
(e) Excludes highlighted values.
(f) 6-mo. avg. Baa utility bonds yield for Sep. 2023, plus 20% of average CAPM risk premium.
(g) Highest cost of equity estimate for Electric Group from Exhibit No. Transco-610.

NON-UTILITY GROUP

		(a)	(b)	(c)	(d)
				Zacks	
	Company	**6-Mo. Div. Yield**	**Adjusted Yield**	**EPS Growth**	**DCF Result**
1	Abbott Labs.	1.93%	1.98%	5.09%	7.07%
2	Air Products & Chem.	2.43%	2.54%	10.23%	12.77%
3	Amdocs Ltd.	1.85%	1.99%	11.00%	12.99%
4	Amgen	3.66%	3.66%	4.33%	7.99%
5	Apple Inc.	0.56%	0.56%	11.35%	11.91%
6	Archer Daniels Midl'd	2.31%	2.38%	6.39%	8.77%
7	Becton, Dickinson	1.44%	1.46%	9.86%	11.32%
8	Bristol-Myers Squibb	3.41%	3.66%	5.05%	8.71%
9	Brown & Brown	0.74%	n/a	n/a	n/a
10	Brown-Forman 'B'	1.27%	n/a	n/a	n/a
11	Church & Dwight	1.20%	1.19%	7.85%	9.04%
12	Cisco Systems	3.12%	3.12%	6.31%	9.43%
13	Coca-Cola	2.98%	3.11%	6.47%	9.58%
14	Colgate-Palmolive	2.52%	2.62%	7.43%	10.05%
15	Comcast Corp.	2.93%	2.88%	9.45%	12.33%
16	Costco Wholesale	0.76%	0.79%	8.84%	9.63%
17	Danaher Corp.	0.44%	0.52%	10.50%	11.02%
18	Gen'l Mills	2.69%	3.03%	6.64%	9.67%
19	Gilead Sciences	3.74%	4.09%	14.07%	18.16%
20	Hershey Co.	1.66%	1.89%	8.54%	10.43%
21	Home Depot	2.74%	2.86%	9.48%	12.34%
22	Hormel Foods	2.68%	2.85%	5.83%	8.68%
23	Intercontinental Exch.	1.57%	1.59%	8.98%	10.57%
24	Johnson & Johnson	2.90%	2.98%	4.93%	7.91%
25	Kimberly-Clark	3.52%	3.68%	8.17%	11.85%
26	Lilly (Eli)	1.17%	1.12%	24.69%	25.81%
27	Lockheed Martin	2.57%	2.75%	8.42%	11.17%
28	Marsh & McLennan	1.40%	1.48%	10.49%	11.97%
29	McCormick & Co.	1.87%	1.89%	7.51%	9.40%
30	McDonald's Corp.	2.15%	2.21%	8.93%	11.14%
31	McKesson Corp.	0.57%	0.60%	10.66%	11.26%
32	Merck & Co.	2.66%	2.76%	8.36%	11.12%
33	Microsoft Corp.	0.91%	0.89%	12.45%	13.34%
34	Mondelez Int'l	2.16%	2.27%	9.04%	11.31%
35	NewMarket Corp.	2.27%	n/a	n/a	n/a
36	Northrop Grumman	1.57%	1.67%	3.70%	5.37%
37	Oracle Corp.	1.55%	1.53%	8.77%	10.30%
38	PepsiCo, Inc.	2.65%	2.82%	8.32%	11.14%
39	Pfizer, Inc.	4.19%	4.62%	9.00%	13.62%
40	Procter & Gamble	2.53%	2.58%	6.87%	9.45%
41	Progressive Corp.	0.30%	0.34%	25.17%	25.51%
42	Republic Services	1.42%	1.45%	9.63%	11.08%
43	Sherwin-Williams	1.02%	1.03%	12.22%	13.25%
44	Smucker (J.M.)	2.72%	2.92%	6.51%	9.43%
45	Texas Instruments	2.83%	3.02%	9.33%	12.35%
46	Thermo Fisher Sci.	0.25%	0.27%	9.48%	9.75%
47	Travelers Cos.	2.20%	2.43%	9.96%	12.39%
48	Walmart Inc.	1.53%	1.52%	6.58%	8.10%
49	Waste Management	1.73%	1.80%	9.90%	11.70%
	Lower End (g)				**7.91%**
	Upper End (g)				**13.62%**
	Median (g)				**11.08%**
	Midpoint				**10.77%**
	Low-End Test (h)				**7.33%**
	High-End Test (i)				**15.15%**

(a) Six-month average dividend yield for Apr. to Sep. 2023.
(b) Six-month average yield x [1 + 0.5 x EPS Growth].
(c) www.zacks.com (retrieved Oct. 3, 2023).
(d) Sum of adjusted yield and growth rate.
(e) Excludes highlighted values.
(f) 6-mo. avg. Baa utility bonds yield for Sep. 2023, plus 20% of average CAPM risk premium.
(g) Highest cost of equity estimate for Electric Group from Exhibit No. Transco-610.