BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

In the Matter of:

Petition for rate increase by Tampa Electric Company.
DOCKET NO. 20240026-EI

Petition for approval of 2023 depreciation and dismantlement study, by Tampa Electric Company.
DOCKET NO. 20230139-EI

In re: Petition to implement 2024 generation base rate adjustment provisions in paragraph 4 of the 2021 stipulation and settlement agreement, by Tampa Electric Company.
DOCKET NO. 20230090-EI

VOLUME 9 - PAGES 1799 - 2129

PROCEEDINGS:	HEARING
COMMISSIONERS PARTICIPATING:	CHAIRMAN MIKE LA ROSA COMMISSIONER ART GRAHAM COMMISSIONER GARY F. CLARK COMMISSIONER ANDREW GILES FAY COMMISSIONER GABRIELLA PASSIDOMO
DATE:	Wednesday, August 28, 2024
TIME:	Commenced: 8:00 a.m. Concluded: 9:15 p.m.
PLACE:	Betty Easley Conference Center Room 148 4075 Esplanade Way Tallahassee, Florida
TRANSCRIBED BY:	DEBRA R. KRICK Court Reporter and Notary Public in and for the State of Florida at Large
APPEARANCES:	(As heretofore noted.)

I N D E X

EXHIBITS

NUMBER:		ID	ADMITTED
839	Commonwealth of Kentucky Order - Delta Natural Gas Company, Inc. Application for Adjustment of Rates (08.06.21) Case No. 2021-00185	2073	2120
840	Delta Natural Gas Company's Notice of Witness Resubstitution (09.20.21) Case No. 2021-00185	2116	2120
841	Kentucky Order Allowing Mr. Paul Moul to Appear Virtually (11.12.21) Case No. 2021-00185	2116	2120
28	As identified in the CEL		2120
148	As identified in the CEL		2120
321	As identified in the CEL		2120
814-815	As identified in the CEL		2121
819-828	As identified in the CEL		2122

P R O C E E D I N G S

(Transcript follows in sequence from Volume 8.)

CHAIRMAN LA ROSA: All right. TECO, back in your hands to introduce your next witness.

Mr. D'Ascendis, I will just do the oath, if you don't mind just standing and raising your right hand.

Whereupon,

DYLAN W. D'ASCENDIS

was called as a witness, having been first duly sworn to speak the truth, the whole truth, and nothing but the truth, was examined and testified as follows:

THE WITNESS: Yes.

CHAIRMAN LA ROSA: Thank you.

EXAMINATION

BY MS. PONDER:

Q Good evening.

A Good evening.

Q Would you please state your full name for the record?

A Yes. It's Dylan, D-Y-L-A-N, William D'Ascendis, D, apostrophe, capital A-S-C-E-N-D-I-S.

Q And who is your current employer, and what is your business address?

A It is ScottMadden, Inc. And my business address is 3000 Atrium Way, Suite 200, in Mount Laurel, New Jersey.

Q Did you prepare and cause to be filed in this docket, on April 2nd, 2024, prepared direct testimony consisting of 92 pages?

A Yes.

Q And did you prepare and cause to be filed in this docket, on July 2nd, 2024, prepared rebuttal testimony consisting of 135 pages?

A Yes.

Q Do you have any additions or corrections to your prepared direct or rebuttal testimony?

A No.

Q If I were to ask you the questions contained in your prepared direct and rebuttal testimony today, would your answers be the same as those contained therein?

A They would.

MS. PONDER: Mr. Chairman, Tampa Electric requests the prepared direct and rebuttal testimony of Mr. D'Ascendis be inserted into the record as though read.

CHAIRMAN LA ROSA: Okay.

(Whereupon, prefiled direct testimony of Dylan

W. D'Ascendis was inserted.)

BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 20240026-EI

IN RE: PETITION FOR RATE INCREASE

BY TAMPA ELECTRIC COMPANY

DIRECT TESTIMONY AND EXHIBIT

OF

DYLAN W. D'ASCENDIS, CRRA, CVA

ON BEHALF OF TAMPA ELECTRIC COMPANY

C13-1222

DOCKET NO. 20240026-EI
WITNESS: D'ASCENDIS
FILED: 04/02/2024

TABLE OF CONTENTS

PREPARED DIRECT TESTIMONY AND EXHIBIT

OF

DYLAN W. D'ASCENDIS, CRRA, CVA

ON BEHALF OF TAMPA ELECTRIC COMPANY

DOCKET NO. 20240026-EI
WITNESS: D'ASCENDIS
FILED: 04/02/2024

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

PREPARED DIRECT TESTIMONY

OF

DYLAN W. D'ASCENDIS, CRRA, CVA

ON BEHALF OF TAMPA ELECTRIC COMPANY

I. INTRODUCTION AND PURPOSE

Q. Please state your name, affiliation, and business address.

A. My name is Dylan W. D'Ascendis. I am a Partner at ScottMadden, Inc. My business address is 3000 Atrium Way, Suite 200, Mount Laurel, New Jersey 08054.

Q. On whose behalf are you submitting this testimony?

A. I am submitting this direct testimony before the Florida Public Service Commission ("Commission") on behalf of Tampa Electric Company ("Tampa Electric" or the "company").

Q. Please summarize your educational background and professional experience.

A. I have offered expert testimony on behalf of investor-owned utilities before over 35 state regulatory commissions in the United States, in addition to the Federal Energy Regulatory

Commission, the Alberta Utility Commission, the Canadian Energy Regulator, an American Arbitration Association panel, and the Superior Court of Rhode Island, on issues including, but not limited to, common equity cost rate, rate of return, valuation, capital structure, class cost of service, and rate design.

On behalf of the American Gas Association ("AGA"), I calculate the AGA Gas Index, which serves as the benchmark against which the performance of the American Gas Index Fund ("AGIF") is measured on a monthly basis. The AGA Gas Index and AGIF are a market capitalization weighted index and mutual fund, respectively, comprised of the common stocks of the publicly traded corporate members of the AGA.

I am a member of the Society of Utility and Regulatory Financial Analysts ("SURFA"). In 2011, I was awarded the professional designation "Certified Rate of Return Analyst" by SURFA, which is based on education, experience, and the successful completion of a comprehensive written examination.

I am also a member of the National Association of Certified Valuation Analysts ("NACVA") and was awarded the professional designation "Certified Valuation Analyst" by

the NACVA in 2015.

I am a graduate of the University of Pennsylvania, where I received a Bachelor of Arts degree in Economic History. I have also received a Master of Business Administration with high honors and concentrations in Finance and International Business from Rutgers University.

The details of my educational background and expert witness appearances are provided in Document No. 1 of Exhibit No. (DWD-1).

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

A. The purpose of my direct testimony is to present evidence on behalf of Tampa Electric and recommend a return on equity ("ROE") to be used for ratemaking purposes in this proceeding.

Q. Have you prepared an exhibit in support of your prepared direct testimony?

A. Yes. My analyses and conclusions are supported by the data presented in Document Nos. 2 through 15 of Exhibit No. (DWD-

1), which have been prepared by me or under my direction and supervision.

Document No. 1	Resume and Testimony Listing of Dylan W. D'Ascendis
Document No. 2	Summary of Common Equity Cost Rate
Document No. 3	Financial Profile of Tampa Electric Company and the Utility Proxy Group
Document No. 4	Application of the Discounted Cash Flow ("DCF") Model
Document No. 5	Application of the Risk Premium Model ("RPM")
Document No. 6	Application of the Capital Asset Pricing Model ("CAPM")
Document No. 7	Basis of Selection for the Non-Price Regulated Companies Comparable in Total Risk to the Utility Proxy Group
Document No. 8	Application of Cost of Common Equity Models to the Non-Price Regulated Proxy Group
Document No. 9	Derivation of the Flotation Cost Adjustment to the Cost of Common Equity
Document No. 10	Derivation of the Indicated Size Premium for Tampa Electric Company Relative to the Utility Proxy Group

Document No. 11	Service Area Maps of Tampa Electric and the Utility Proxy Group
Document No. 12	National Risk Index of Utility Proxy Group and Tampa Electric Company
Document No. 13	Comparison of Projected Capital Expenditures Relative to Net Plant
Document No. 14	Fama & French – Figure 2
Document No. 15	Referenced Endnotes for the Prepared Direct Testimony of Dylan W. D'Ascendis

II. SUMMARY

Q. What is your recommended ROE for Tampa Electric?

A. I recommend that the Commission authorize Tampa Electric the opportunity to earn an ROE of 11.50 percent on its jurisdictional rate base. The ratemaking capital structure and cost of long-term debt is sponsored by Tampa Electric witness Jeff Chronister.

Q. Please summarize the support for your recommended ROE for Tampa Electric.

A. My recommended ROE of 11.50 percent is summarized in Document No. 2. To support my ROE recommendation, I have assessed the market-based common equity cost rates of

companies of relatively similar, but not necessarily identical, risk to Tampa Electric. Using companies of relatively comparable risk as proxies is consistent with the principles of fair rate of return established by the United States Supreme Court in two cases: (1) *Federal Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944) *("Hope")*; and (2) *Bluefield Water Works Improvement Co. v. Public Serv. Comm'n*, 262 U.S. 679 (1923) *("Bluefield")*. No proxy group can be identical in risk to any single company. Consequently, there must be an evaluation of relative risk between the company and the proxy group to determine if it is appropriate to adjust the proxy group's indicated rate of return.

My recommendation results from applying several cost of common equity models, specifically the DCF model, the RPM, and the CAPM, to the market data of the Utility Proxy Group whose selection criteria will be discussed below. In addition, I applied the DCF model, RPM, and CAPM to the Non-Price Regulated Proxy Group as discussed further below. The results derived from each are summarized in Document No. 2.

As shown in Document No. 2, I adjusted the indicated common equity cost rate to reflect the effect of flotation costs, as well as the company's somewhat stronger credit rating as

compared to the Utility Proxy Group. These adjustments resulted in a company-specific indicated range of common equity cost rates between 9.90 percent and 12.49 percent. The indicated range of ROEs applicable to the Utility Proxy Group excluding the Predictive Risk Premium Model ("PRPM") from the calculation of the market risk premium is 9.90 percent to 12.42 percent. Given the Utility Proxy Group and company-specific ranges of common equity cost rates, and the company's high customer growth and level of capital investment plans, my recommended ROE for the company is 11.50 percent.

Q. Please summarize the company's proposed capital structure.

A. The company is proposing a capital structure which includes a 54.00 percent common equity ratio. That common equity ratio is consistent with the company's historical equity ratios, and the range of equity ratios maintained by the Utility Proxy Group and their operating subsidiary utility companies.

III. GENERAL PRINCIPLES

Q. What general principles have you considered in arriving at your recommended common equity cost rate of 11.50 percent?

A. In unregulated industries, marketplace competition is the principal determinant of the price of products or services. For regulated public utilities, regulation must act as a substitute for marketplace competition. Assuring that a utility can fulfill its obligations to the public, while providing safe and reliable service at all times, requires a level of earnings sufficient to maintain the integrity of presently invested capital. Sufficient earnings also permit a utility to attract needed new capital at a reasonable cost, for which the utility must compete with other firms of comparable risk, consistent with the fair rate of return standards established by the U.S. Supreme Court in the previously cited *Hope* and *Bluefield* cases.

The U.S. Supreme Court affirmed the fair rate of return standards in *Hope* when it stated:

> The rate-making process under the Act, *i.e.*, the fixing of 'just and reasonable' rates, involves a balancing of the investor and the consumer interests.
>
> Thus we stated in the *Natural Gas Pipeline Co.* Case that 'regulation does not insure that the business shall produce net revenues.' 315 U.S. at page 590, 62 S.Ct. at page 745. But such considerations

> aside, the investor interest has a legitimate concern with the financial integrity of the company whose rates are being regulated. From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock. *Cf. Chicago & Grand Trunk R. Co. v. Wellman*, 143 U.S. 339, 345, 346 12 S.Ct. 400,402. By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital.[1]

In summary, the U.S. Supreme Court has found a return that is adequate to attract capital at reasonable terms enables the utility to provide service while maintaining its financial integrity. As discussed above, and in keeping with established regulatory standards, that return should be commensurate with the returns expected elsewhere for investments of equivalent risk. The Commission's decision in this proceeding, therefore, should provide the company with

the opportunity to earn a return that is: (1) adequate to attract capital at reasonable cost and terms; (2) sufficient to ensure its financial integrity; and (3) commensurate with returns on investments in enterprises having corresponding risks.

Lastly, the required return for a regulated public utility is established on a stand-alone basis, *i.e.*, for the utility operating company at issue in a rate case. Parent entities, like other investors, have capital constraints and must look at the attractiveness of the expected risk-adjusted return of each investment alternative in their capital budgeting process. That is, utility holding companies that own many utility operating companies have choices as to where they will invest their capital within the holding company family. Therefore, the opportunity cost concept applies regardless of the source of the funding, public funding or corporate funding.

It therefore is important that the authorized ROE reflects the risks and prospects of the utility's operations and supports the utility's financial integrity from a stand-alone perspective, as measured by its combined business and financial risks. Consequently, the ROE authorized in this proceeding should be sufficient to support the operational

(*i.e.*, business risk) and financing (*i.e.*, financial risk) of the company's utility subsidiary on a stand-alone basis.

Q. Within that broad framework, how is the cost of capital estimated in regulatory proceedings?

A. Regulated utilities primarily use common stock and long-term debt to finance their permanent property, plant, and equipment (*i.e.*, rate base). The fair rate of return for a regulated utility is based on its weighted average cost of capital, in which, as noted earlier, the costs of the individual sources of capital are weighted by their respective book values.

The cost of capital is the return investors require to make an investment in a company. Investors will provide funds to a firm only if the return that they *expect* is equal to, or greater than, the return that they *require* to accept the risk of providing funds to the firm.

The cost of capital (*i.e.*, the combination of the costs of debt and equity) is based on the economic principle of "opportunity costs." Investing in any asset (whether debt or equity securities) represents a forgone opportunity to invest in alternative assets. For any investment to be sensible, its

expected return must be at least equal to the return expected on alternative, comparable risk investment opportunities. Because investments with like risks should offer similar returns, the opportunity cost of an investment should equal the return available on an investment of comparable risk.

Whereas the cost of debt is contractually defined and can be directly observed as the interest rate or yield on debt securities, the cost of common equity must be estimated based on market data and various financial models. Because the cost of common equity is premised on opportunity costs, the models used to determine it are typically applied to a group of "comparable" or "proxy" companies.

In the end, the estimated cost of capital should reflect the return that investors require in light of the subject company's business and financial risks, and the returns available on comparable investments.

Q. Is the authorized return set in regulatory proceedings guaranteed?

A. No, it is not. Consistent with the *Hope* and *Bluefield* standards, the ratemaking process should provide the utility a reasonable opportunity to recover its return of, and return

on, its reasonably incurred investments, but it does not guarantee that return. While a utility may have control over some factors that affect the ability to earn its authorized return (*e.g.*, management performance, operating and maintenance expenses, etc.), there are several factors beyond a utility's control that affect its ability to earn its authorized return. Those may include factors such as weather, the economy, and the prevalence and magnitude of regulatory lag.

Business Risk

Q. Please define business risk and explain why it is important for determining a fair rate of return.

A. The investor-required return on common equity reflects investors' assessment of the total investment risk of the subject firm. Total investment risk is often discussed in the context of business and financial risks.

Business risk reflects the uncertainty associated with owning a company's common stock without the company's use of debt and/or preferred stock financing. One way of considering the distinction between business and financial risks is to view the former as the uncertainty of the expected earned return on common equity, assuming the firm

is financed with no debt.

Examples of business risks generally faced by utilities include, but are not limited to, the regulatory environment, mandatory environmental compliance requirements, customer mix and concentration of customers, service territory economic growth, market demand, risks and uncertainties of supply, operations, capital intensity, size, the degree of operating leverage, emerging technologies including distributed energy resources, the vagaries of weather, all of which have a direct bearing on earnings. Although analysts, including rating agencies, may categorize business risks individually, as a practical matter, such risks are interrelated and not wholly distinct from one another. Therefore, it is difficult to specifically and numerically quantify the effect of any individual risk on investors' required return, *i.e.*, the cost of capital. For determining an appropriate return on common equity, the relevant issue is where investors see the subject company as falling within a spectrum of risk. To the extent investors view a company as being exposed to higher risk, the required return will increase, and vice versa.

For regulated utilities, business risks are both long-term and near-term in nature. Whereas near-term business risks

are reflected in year-to-year variability in earnings and cash flow brought about by economic or regulatory factors, long-term business risks reflect the prospect of an impaired ability of investors to obtain both a fair rate of return on, and return of, their capital. Moreover, because utilities accept the obligation to provide safe, adequate, and reliable service at all times (in exchange for a reasonable opportunity to earn a fair return on their investment), they generally do not have the option to delay, defer, or reject capital investments. Because those investments are capital-intensive, utilities generally do not have the option to avoid raising external funds during periods of capital market distress, if necessary.

Because utilities invest in long-lived assets, long-term business risks are of paramount concern to equity investors. That is, the risk of not recovering the return on their investment extends far into the future. The timing and nature of events that may lead to losses, however, also are uncertain and, consequently, those risks and their implications for the required return on equity tend to be difficult to quantify. Regulatory commissions (like investors who commit their capital) must review a variety of quantitative and qualitative data and apply their reasoned judgment to determine how long-term risks weigh in

their assessment of the market-required return on common equity.

Financial Risk

Q. Please define financial risk and explain why it is important in determining a fair rate of return.

A. Financial risk is the additional risk created by the introduction of debt and preferred stock into the capital structure. The higher the proportion of debt and preferred stock in the capital structure, the higher the financial risk to common equity owners (*i.e.*, failure to receive dividends due to default or other covenants). Therefore, consistent with the basic financial principle of risk and return, common equity investors require higher returns as compensation for bearing higher financial risk.

Q. Can bond and credit ratings be a proxy for a firm's combined business and financial risks to equity owners (*i.e.*, investment risk)?

A. Yes, similar bond ratings/issuer credit ratings reflect, and are representative of, similar combined business and financial risks (*i.e.*, total risk) faced by bond investors.[2] Although specific business or financial risks may differ

between companies, the same bond/credit rating indicates that the combined risks are roughly similar from a debtholder perspective. The caveat is that these debtholder risk measures do not translate directly to risks for common equity.

IV. TAMPA ELECTRIC AND THE UTILITY PROXY GROUP

Q. Are you familiar with Tampa Electric's operations?

A. Yes. The company's electric division provides generation, transmission, and distribution electric service to approximately 839,960 retail customers in Florida.[3] Tampa Electric has long-term issuer ratings of A3 from Moody's and BBB+ from S&P.[4] The company is not publicly traded as it comprises an operating subsidiary of TECO Energy, Inc., whose ultimate parent is Emera Incorporated ("Emera" or the "Parent"). Emera has electric generation, transmission, and distribution operations, natural gas transmission and distribution operations, and non-regulated energy marketing operations in Canada, the United States, and the Caribbean.[5]

Page 1 of Document No. 3 contains comparative capitalization and financial statistics for Tampa Electric for the years 2018 to 2022.[6]

Q. Please explain how you chose the companies in the Utility Proxy Group.

A. The companies selected for the Utility Proxy Group met the following criteria:

- They were included in the Eastern, Central, or Western Electric Utility Group of *Value Line* (Standard Edition);
- They have 70.00 percent or greater of fiscal year 2022 total operating income derived from, and 70.00 percent or greater of fiscal year 2022 total assets attributable to, regulated electric operations;
- They are vertically integrated (*i.e.*, utilities that own and operate regulated generation, transmission, and distribution assets);
- At the time of preparation of this direct testimony, they had not publicly announced that they were involved in any major merger or acquisition activity (*i.e.*, one publicly traded utility merging with or acquiring another) or any other major development;
- They have not cut or omitted their common dividends during the five years ending 2022 or through the time of preparation of this direct testimony;
- They have *Value Line* and Bloomberg Professional Services ("Bloomberg") adjusted betas;
- They have positive *Value Line* five-year dividends per

share ("DPS") growth rate projections; and

- They have *Value Line*, Zacks, or Yahoo! Finance consensus five-year earnings per share ("EPS") growth rate projections.

The following 14 companies met these criteria: Alliant Energy Corporation (LNT); Ameren Corporation (AEE); American Electric Power Corporation (AEP); Duke Energy Corporation (DUK); Edison International (EIX); Entergy Corporation (ETR); Evergy, Inc. (EVRG); IDACORP, Inc. (IDA); NorthWestern Corporation (NWE); OGE Energy Corporation (OGE); Pinnacle West Capital Corporation (PNW); Portland General Electric Company (POR); Southern Company (SO); and Xcel Energy, Inc. (XEL).

Q. Please describe Document No. 3, page 2.

A. Page 2 of Document No. 3 contains comparative capitalization and financial statistics for the Utility Proxy Group for the years 2018 to 2022.

V. CAPITAL STRUCTURE

Q. What is Tampa Electric's requested capital structure?

A. Tampa Electric's requested capital structure consists of

41.57 percent long-term debt and 54.00 percent common equity, as shown in my Document No. 1 that is based on data included in the company's MFR Schedule D-1a.

Q. Does Tampa Electric have a separate capital structure that is recognized by investors?

A. Yes. Tampa Electric is a separate corporate entity that has its own capital structure and issues its own debt. Tampa Electric's actual capital structure is reflected in registrations of its debt issuances with the United States Securities and Exchange Commission.

Q. What are the typical sources of capital commonly considered in establishing a utility's capital structure?

A. Common equity and long-term debt are commonly considered in establishing a utility's capital structure because they are the typical sources of capital financing for a utility's rate base.

Q. Please explain.

A. Long-lived assets are typically financed with long-lived securities, so that the overall term structure of the

utility's long-term liabilities (both debt and equity) closely match the life of the assets being financed. As stated by Brigham and Houston:

> In practice, firms don't finance each specific asset with a type of capital that has a maturity equal to the asset's life. However, academic studies do show that most firms tend to finance short-term assets from short-term sources and long-term assets from long-term sources.[7]

Whereas short-term debt has a maturity of one year or less, long-term debt may have maturities of 30 years or longer. Although there are practical financing constraints, such as the need to "stagger" long-term debt maturities, the general objective is to extend the average life of long-term debt. Still, long-term debt has a finite life, which is likely to be less than the life of the assets included in rate base. Common equity, on the other hand, is outstanding into perpetuity. Thus, common equity more accurately matches the life of the going concern of the utility, which is also assumed to operate in perpetuity. Consequently, it is both typical and important for utilities to have significant proportions of common equity in their capital structures.

Q. Why is it important that the company's requested capital

structure, consisting of 41.57 percent long-term debt and 54.00 percent common equity, be authorized in this proceeding?

A. In order to provide safe, reliable, and affordable service to its customers, Tampa Electric must meet the needs and serve the interests of its various stakeholders, including its customers, shareholders, and bondholders. The interests of these stakeholder groups are aligned with maintaining a healthy balance sheet, strong credit ratings, and a supportive regulatory environment, so that the company has access to capital on reasonable terms in order to make necessary investments.

Safe and reliable service cannot be maintained at a reasonable cost if utilities do not have the financial flexibility and strength to access competitive financing markets on reasonable terms. As Mr. Chronister explains, an appropriate capital structure is important not only to ensure long-term financial integrity, it also is critical to enabling access to capital during constrained markets, or when near-term liquidity is needed to fund extraordinary requirements. In that respect, the capital structure, and the financial strength it engenders, must support both normal circumstances and periods of market uncertainty. The

authorization of a capital structure that understates the company's actual common equity will weaken the financial condition of its operations and adversely impact the company's ability to address expenses and investments, to the detriment of customers and shareholders. Safe and reliable service for customers cannot be sustained over the long term if the interests of shareholders and bondholders are minimized such that the public interest is not optimized.

Q. How does the company's requested common equity ratio of 54.00 percent compare with the common equity ratios maintained by the Utility Proxy Group?

A. The company's requested ratemaking common equity ratio of 54.00 percent is reasonable and consistent with the range of common equity ratios maintained by the Utility Proxy Group. As shown on pages 3 and 4 of Document No. 3, common equity ratios of the Utility Proxy Group companies range from 28.90 percent to 56.13 percent for fiscal year 2022.

In addition to comparing the company's actual common equity ratio with current common equity ratios maintained by the Utility Proxy Group companies, I also compared the company's actual common equity ratio with the equity ratios maintained

by the utility operating subsidiaries of the Utility Proxy Group companies. As shown on page 5 of Document No. 3, common equity ratios of the utility operating subsidiaries of the Utility Proxy Group range from 38.14 percent to 55.90 percent for fiscal year 2022.

Q. Is Tampa Electric's equity ratio of 54.00 percent appropriate for ratemaking purposes given these measures cited above?

A. Yes, it is. The company's equity ratio of 54.00 percent is appropriate for ratemaking purposes in the current proceeding because it is within the range of the common equity ratios currently maintained, and expected to be maintained, by the Utility Proxy Group and their utility operating subsidiaries.

VI. COMMON EQUITY COST RATE MODELS

Q. Is it important that cost of common equity models be market-based?

A. Yes. While a public utility operates a regulated business within the states in which it operates, it still must compete for equity in capital markets along with all other companies of comparable risk, which includes non-utilities. The cost of

common equity is thus determined based on equity market expectations for the returns of those companies. If an individual investor is choosing to invest their capital among companies of comparable risk, they will choose a company providing a higher return over a company providing a lower return.

Q. Are your cost of common equity models market-based?

A. Yes. The DCF model uses market prices in developing the model's dividend yield component. The RPM uses bond ratings and expected bond yields that reflect the market's assessment of bond/credit risk. In addition, betas (β), which reflect the market/systematic risk component of equity risk premium, are derived from regression analyses of market prices. The CAPM is market-based for many of the same reasons that the RPM is market-based (*i.e.*, the use of expected bond yields and betas). Selection criteria for comparable risk, non-price regulated companies are based on regression analyses of market prices and reflect the market's assessment of total risk.

Q. What analytical approaches did you use to determine the company's ROE?

A. As discussed earlier, I have relied on the DCF model, the RPM, and the CAPM, which I applied to the Utility Proxy Group described above. I also applied these same models to a Non-Price Regulated Proxy Group described later in this section.

I rely on these models because reasonable investors use a variety of tools and do not rely exclusively on a single source of information or single model. Moreover, the models on which I rely focus on different aspects of return requirements and provide different insights to investors' views of risk and return. The DCF model, for example, estimates the investor-required return assuming a constant expected dividend yield and growth rate in perpetuity, while Risk Premium-based methods (*i.e.*, the RPM and CAPM approaches) provide the ability to reflect investors' views of risk, future market returns, and the relationship between interest rates and the cost of common equity. Just as the use of market data for the Utility Proxy Group adds the reliability necessary to inform expert judgment in arriving at a recommended common equity cost rate, the use of multiple generally accepted common equity cost rate models also adds reliability and accuracy when arriving at a recommended common equity cost rate.

Q. Has the Commission approved the use of multiple methods in

determining the cost of equity during past rate cases?

A. Yes. In Docket No. 20080318-GU, the Commission stated that there are several models which satisfy the terms for determining a fair rate of return as laid out by *Hope* and *Bluefield*:

> While the logic of the legal and economic concepts of a fair rate of return are fairly straight forward, the actual implementation of these concepts is more controversial. Unlike the cost rate on debt that is fixed and known due to its contractual terms, the cost of equity must be estimated. **Financial models have been developed to estimate the investor-required ROE for a company.** Market-based approaches such as the Discounted Cash Flow (DCF) model and the Capital Asset Pricing Model (CAPM) are generally recognized as being consistent with the market-based standards of a fair return enunciated in Hope, 320 U.S. 591 and Bluefield, 262 U.S. 679. [Emphasis added][8]

More recently, in Order No. PSC-2023-0388-FOF-GU, issued on December 27, 2023, the Commission considered the results of the witnesses DCF, CAPM, and RPM analyses to determine the appropriate range of ROEs in which to set Peoples Gas System,

Inc.'s authorized return.[9]

Discounted Cash Flow Model

Q. What is the theoretical basis of the DCF model?

A. The theory underlying the DCF model is that the present value of an expected future stream of net cash flows during the investment holding period can be determined by discounting those cash flows at the cost of capital, or the investors' capitalization rate. DCF theory indicates that an investor buys a stock for an expected total return rate, which is derived from the cash flows received from dividends and market price appreciation. Mathematically, the dividend yield on market price plus a growth rate equals the capitalization rate (*i.e.*, the total common equity return rate expected by investors), as depicted in the formula below:

$$K_e = (D_0 (1+g))/P + g$$

Where:

K_e = the required return on common equity;

D_0 = the annualized dividend per share;

P = the current stock price; and

g = the growth rate.

Q. Which version of the DCF model did you rely on?

A. I used the single-stage constant growth DCF model in my analyses.

Q. Please describe the dividend yield you used in applying the constant growth DCF model.

A. The unadjusted dividend yields are based on the Utility Proxy Group companies' dividends as of December 29, 2023, divided by the average closing market price for the 60 trading days ended December 29, 2023 (*see*, Column 1, page 1 of Document No. 4).

Q. Please explain your adjustment to the dividend yield.

A. Because dividends are paid periodically (*e.g.*, quarterly), as opposed to continuously (daily), an adjustment must be made to the dividend yield. This is often referred to as the discrete, or the Gordon Periodic, version of the DCF model.

DCF theory calls for using the full growth rate, or D_1, in calculating the model's dividend yield component. Since the companies in the Utility Proxy Group increase their quarterly dividends at various times during the year, a reasonable assumption is to reflect one-half of the annual dividend growth rate in the dividend yield component, or

$D_{1/2}$. Because the dividend should be representative of the next 12-month period, this adjustment is a conservative approach that does not overstate the dividend yield. Therefore, the actual average dividend yields in Column 1, page 1 of Document No. 4 were adjusted upward to reflect one-half of the average projected growth rate shown in Column 6.

Q. Please explain the basis for the growth rates you apply to the Utility Proxy Group in your constant growth DCF model.

A. Investors are likely to rely on widely available financial information services, such as *Value Line*, Zacks, and Yahoo! Finance. Investors realize that analysts have significant insight into the dynamics of the industries and individual companies they analyze, as well as companies' abilities to effectively manage the effects of changing laws and regulations, and ever-changing economic and market conditions. For these reasons, I used analysts' five-year forecasts of earnings per share growth in my DCF analysis.

Over the long run, there can be no growth in dividends per share without growth in earnings per share. Security analysts' earnings expectations have a more significant influence on market prices than dividend expectations. Thus,

using projected earnings growth rates in a DCF analysis provides a better match between investors' market price appreciation expectations and the growth rate component of the DCF.

Q. Please summarize the constant growth DCF model results.

A. As shown on page 1 of Document No. 4, the application of the constant growth DCF model to the Utility Proxy Group results in a range of indicated ROEs from 7.42 percent to 10.72 percent. The mean of those results is 9.89 percent, the median result is 9.89 percent, and the average of the two is 9.89 percent.

In arriving at a conclusion for the constant growth DCF-indicated common equity cost rate for the Utility Proxy Group, I relied on an average of the mean and the median results of the DCF, specifically 9.89 percent, applicable to the Utility Proxy Group. This approach takes into consideration all proxy company results while mitigating high and low side outliers of those results.

The Risk Premium Model

Q. Please describe the theoretical basis of the RPM.

A. The RPM is based on the fundamental financial principle of risk and return; namely, that investors require greater returns for bearing greater risk. The RPM recognizes that common equity capital has greater investment risk than debt capital, as common equity shareholders are behind debtholders in any claim on a company's assets and earnings. As a result, investors require higher returns from common stocks than from bonds to compensate them for bearing the additional risk.

While it is possible to directly observe bond returns and yields, the investors' required common equity returns cannot be directly determined or observed. According to RPM theory, one can estimate a common equity risk premium over bonds (either historically or prospectively) and use that premium to derive a cost rate of common equity. The cost of common equity equals the expected cost rate for long-term debt capital, plus a risk premium over that cost rate, to compensate common shareholders for the added risk of being unsecured and last-in-line for any claim on the corporation's assets and earnings upon liquidation.

Q. Please explain the total market approach RPM.

A. The total market approach RPM adds a prospective public

utility bond yield to an average of: (1) an equity risk premium that is derived from a beta-adjusted total market equity risk premium, (2) an equity risk premium based on the S&P Utilities Index, and (3) an equity risk premium based on authorized ROEs for electric utilities.

Q. Please explain how you determined the expected bond yield applicable to the Utility Proxy Group.

A. The first step in the total market approach RPM analysis is to determine the expected bond yield. Because both ratemaking and the cost of capital, including the common equity cost rate, are prospective in nature, a prospective yield on similarly-rated long-term debt is essential. I relied on a consensus forecast of about 50 economists of the expected yield on Aaa-rated corporate bonds for the six calendar quarters ending with the second calendar quarter of 2025, and *Blue Chip*'s long-term projections for 2025 to 2029, and 2030 to 2034. As shown on line 1, page 1 of Document No. 5, the average expected yield on Moody's Aaa-rated corporate bonds is 4.90 percent.

Because that 4.90 percent estimate represents a corporate bond yield and not a utility specific bond yield, I adjusted the expected Aaa-rated corporate bond yield to an equivalent

A2-rated public utility bond yield, I made an upward adjustment of 0.73 percent, which represents a recent spread between Aaa-rated corporate bonds and A2-rated public utility bonds (as shown on line 2 and explained in note 2 on page 1 of Document No. 5). Adding that recent 0.73 percent spread to the expected Aaa-rated corporate bond yield of 4.90 percent results in an expected A2-rated public utility bond yield of 5.63 percent.

I then reviewed the average credit rating for the Utility Proxy Group from Moody's to determine if an adjustment to the estimated A2-rated public utility bond was necessary. Since the Utility Proxy Group's average Moody's long-term issuer rating is Baa1, another adjustment to the expected A2-rated public utility bond is needed to reflect this difference in bond ratings. An upward adjustment of 0.17 percent, which represents two-thirds of a recent spread between A2-rated and Baa2-rated public utility bond yields, is necessary to make the A2 prospective bond yield applicable to an Baa1-rated public utility bond (as shown on line 4 and explained in note 3 on page 1 of Document No. 5). Adding the 0.17 percent to the 5.63 percent prospective A2-rated public utility bond yield results in a 5.80 percent expected bond yield applicable to the Utility Proxy Group as shown on page 1 of Document No. 5.

To develop the total market approach RPM estimate of the appropriate return on equity, this prospective bond yield is then added to the average of the three different equity risk premiums, which I now discuss, in turn.

Q. Please explain how the beta-derived equity risk premium is determined.

A. The components of the beta-derived risk premium model are: (1) an expected market equity risk premium over corporate bonds, and (2) the beta. The derivation of the beta-derived equity risk premium that I applied to the Utility Proxy Group is shown on lines 1 through 9, on page 6 of Document No. 5. The total beta-derived equity risk premium I applied is based on an average of three historical market data-based equity risk premiums, two *Value Line*-based equity risk premiums, and a Bloomberg-based equity risk premium. Each of these is described below.

Q. How did you derive a market equity risk premium based on long-term historical data?

A. To derive an historical market equity risk premium, I used the most recent holding period returns for the large company common stocks from the Stocks, Bonds, Bills, and Inflation

("SBBI") Yearbook 2023 ("SBBI - 2023")[10] less the average historical yield on Moody's Aaa/Aa-rated corporate bonds for the period 1928 to 2022. Using holding period returns over a long period of time is appropriate because it is consistent with the long-term investment horizon presumed by investing in a going concern, *i.e.*, a company expected to operate in perpetuity.

SBBI's long-term arithmetic mean monthly total return rate on large company common stocks was 11.78 percent and the long-term arithmetic mean monthly yield on Moody's Aaa/Aa-rated corporate bonds was 5.96 percent (as explained in note 1, page 6 of Document No. 5). As shown on line 1, page 6 of Document No. 5, subtracting the mean monthly bond yield from the total return on large company stocks results in a long-term historical equity risk premium of 5.82 percent.

I used the arithmetic mean monthly total return rates for the large company stocks and yields (income returns) for the Moody's Aaa/Aa corporate bonds, because they are appropriate for the purpose of estimating the cost of capital as noted in SBBI - 2023.[11] Using the arithmetic mean return rates and yields is appropriate because historical total returns and equity risk premiums provide insight into the variance and standard deviation of returns needed by investors in

estimating future risk when making a current investment. If investors relied on the geometric mean of historical equity risk premiums, they would have no insight into the potential variance of future returns, because the geometric mean relates the change over many periods to a constant rate of change, thereby obviating the year-to-year fluctuations, or variance, which is critical to risk analysis.

Q. Please explain the derivation of the regression-based market equity risk premium.

A. To derive the regression-based market equity risk premium of 7.27 percent shown on line 2, page 6 of Document No. 5, I used the same monthly annualized total returns on large company common stocks relative to the monthly annualized yields on Moody's Aaa/Aa-rated corporate bonds as mentioned above. I modeled the relationship between interest rates and the market equity risk premium using the observed monthly market equity risk premium as the dependent variable, and the monthly yield on Moody's Aaa/Aa-rated corporate bonds as the independent variable. I then used a linear Ordinary Least Squares ("OLS") regression, in which the market equity risk premium is expressed as a function of the Moody's Aaa/Aa-rated corporate bonds yield:

$$RP = \alpha + \beta(R_{Aaa/Aa})$$

Q. Please explain the derivation of the PRPM equity risk premium.

A. The PRPM, published in the *Journal of Regulatory Economics*,[12] was developed from the work of Robert F. Engle, who shared the Nobel Prize in Economics in 2003 "for methods of analyzing economic time series with time-varying volatility ("ARCH")".[13] Engle found that volatility changes over time and is related from one period to the next, especially in financial markets. Engle discovered that volatility of prices and returns clusters over time and is therefore highly predictable and can be used to predict future levels of risk and risk premiums.

The PRPM estimates the risk-return relationship directly, as the predicted equity risk premium is generated by predicting volatility or risk. The PRPM is not based on an estimate of investor behavior, but rather on an evaluation of the results of that behavior (*i.e.*, the variance of historical equity risk premiums).

The inputs to the model are the historical monthly returns on large company common stocks minus the monthly yields on

Moody's Aaa/Aa-rated corporate bonds during the period from January 1928 through December 2023.[14] Using a generalized form of ARCH, known as GARCH, I calculated each Utility Proxy Group company's projected equity risk premium using Eviews© statistical software. When the GARCH model is applied to the historical return data, it produces a predicted GARCH variance series and a GARCH coefficient. Multiplying the predicted monthly variance by the GARCH coefficient and then annualizing it[15] produces the predicted annual equity risk premium. The resulting PRPM predicted a market equity risk premium of 9.35 percent.[16]

Q. Is the PRPM supported by academic literature?

A. Yes, it is. The PRPM is based on the research of Dr. Robert F. Engle, dating back to the early 1980s. Dr. Engle discovered that the volatility of market prices, returns, and risk premiums clusters over time, making prices, returns, and risk premiums highly predictable.

In 2003, he shared the Nobel Prize in Economics for this work, characterized as "methods of analyzing economic time series with time-varying volatility ("ARCH").[17] Dr. Engle[18] noted that relative to volatility, "the standard tools have become the ARCH/GARCH[19] models." Hence, the methodology is not new.

In addition, the GARCH methodology has been well tested by academia since Engle's, *et al.* research was originally published in 1982, 40 years ago. I use the well-established GARCH methodology to estimate the PRPM model using a standard commercial and relatively inexpensive statistical package, Eviews,©[20] to develop a means by which to estimate a predicted equity risk premium which, when added to a bond yield, results in a cost of common equity.

Also, the PRPM is in the public domain, having been published six times in academically peer-reviewed journals: *Journal of Economics and Business* (June 2011 and April 2015),[21] *The Journal of Regulatory Economics* (December 2011),[22] *The Electricity Journal* (May 2013 and March 2020),[23] and *Energy Policy* (April 2019).[24] Notably, none of these articles have been rebutted in the academic literature.

Finally, the PRPM has also been presented to a number of utility industry/regulatory/academic groups including the following: The Edison Electric Institute Cost of Capital Working Group; The NARUC Staff Subcommittee on Accounting and Finance; The National Association of Electric Companies Finance/Accounting/Taxation and Rates and Regulations Committees; the NARUC Electric Committee; The Wall Street Utility Group; the Indiana Utility Regulatory Commission

Cost of Capital Task Force; the Financial Research Institute of the University of Missouri Hot Topic Hotline Webinar; and the Center for Research and Regulated Industries Annual Eastern Conference on two occasions.

Q. Has the PRPM been implicitly accepted by other regulatory commissions?

A. Yes. In Docket No. 2017-292-WS, the Public Service Commission of South Carolina ("PSC SC") accepted Blue Granite Water Company's entire requested ROE, which included the PRPM. The relevant portion states:

> The Commission finds Mr. D'Ascendis' arguments persuasive. He provided more indicia of market returns, by using more analytical methods and proxy group calculations. Mr. D'Ascendis' use of analysts' estimates for his DCF analysis is supported by consensus, as is his use of the arithmetic mean. The Commission also finds that Mr. D'Ascendis' non-price regulated proxy group more accurately reflects the total risk faced [by] price regulated utilities and CWS. Furthermore, there is no dispute that CWS is significantly smaller than its proxy group counterparts, and, therefore, it may present a higher risk. An appropriate ROE for

> CWS is 10.45% to 10.95%. The company used an ROE of 10.5% in computing its Application, a return on the low end of Mr. D'Ascendis' range, and the Commission finds that ROE is supported by the evidence.[25]

In addition, in Docket No. W-354, Subs 363, 364 and 365, the State of North Carolina Utilities Commission ("NCUC") approved my RPM and CAPM analyses, which used PRPM analyses as presented in this proceeding. The relevant portion of the order states:

> In doing so the Commission finds that the DCF (8.81%), Risk Premium (10.00%) and CAPM (9.29%) model results provided by witness D'Ascendis, as updated to use current rates in D'Ascendis Late-Filed Exhibit No. 1, as well as the risk premium (9.57%) analysis of witness Hinton, are credible, probative, and are entitled to substantial weight as set forth below.[26]

Q. Did the commission reject the PRPM in Order No. PSC-2023-0388-FOF-GU concerning Peoples Gas Systems?

A. Yes, it did. The Commission stated the:

> PRPM suffers from a lack of transparency, is used

only by a few ROE witnesses testifying on behalf of utilities, has not been widely relied upon by other regulatory jurisdictions, and routinely produces ROE results that are higher than both the DCF Model and CAPM which are widely accepted and relied upon by the regulatory community. We find that there is persuasive evidence in the record that the PRPM method developed and used by witness D'Ascendis in all his cost of equity analyses produces an unreasonably excessive ROE and shall be disregarded.

Q. Do you have a response to the commission's statement?

A. Yes, I do. I appreciate the commission's openness to considering multiple models in its determination of ROEs for the utilities they regulate, but I respectfully disagree with their exclusion of the PRPM in Order No. PSC-2023-0388-FOF-GU. As noted above, the theory supporting the model is based on the Nobel Prize winning work of Engle, and the model itself has been published six times in four separate peer-reviewed academic journals, which indicates that it has been thoroughly vetted by the academic community. This, in addition to the fact that the model has not been rebutted in the academic literature in the over ten years since it has

been presented should speak to the model's soundness. While maybe not universally accepted, the PRPM is widely disseminated across the U.S. regulatory landscape.

In view of the above, the soundness of the model, as evidenced in the underlying theory and the academic vetting of the PRPM, and the wide dissemination of the model in the U.S. regulatory landscape should lead the commission reconsider the PRPM in its determination regarding the ROE for Tampa Electric in this proceeding.

Q. Have you applied the PRPM in the same manner in this proceeding as you did in Docket No. 20230023-GU?

A. In part. In my Direct Testimony in this proceeding, I have not relied on the PRPM results of the individual companies in the Utility Proxy Group. However, I continue to rely on the PRPM in my estimation of the equity risk premium used in my RPM and CAPM analyses.

Q. Additionally, have you presented your ROE model results excluding the PRPM?

A. Yes. While I respectfully disagree with the Commission's finding in Order No. PSC-2023-0388-FOF-GU, I have presented

my ROE model results including and excluding the PRPM for the commission's convenience. As can be gleaned from Document No. 2, my recommended ROE of 11.50 percent is still within the range of ROEs produced by my models without the PRPM.

Q. Please explain the derivation of a projected equity risk premium based on *Value Line* data for your RPM analysis.

A. As noted above, because both ratemaking and the cost of capital are prospective, a prospective market equity risk premium is needed. The derivation of the forecasted or prospective market equity risk premium can be found in note 4, page 7 of Document No. 5. Consistent with my calculation of the dividend yield component in my DCF analysis, this prospective market equity risk premium is derived from an average of the three- to five-year median market price appreciation potential by *Value Line* for the 13 weeks ended December 29, 2023, plus an average of the median estimated dividend yield for the common stocks of the 1,700 firms covered in *Value Line* (as explained in note 1, page 2 of Document No. 5).

The average median expected price appreciation is 62.00 percent, which translates to a 12.82 percent annual appreciation, and when added to the average of *Value Line's*

median expected dividend yields of 2.33 percent, equates to a forecasted annual total return rate on the market of 15.15 percent. The forecasted Moody's Aaa-rated corporate bond yield of 4.90 percent is deducted from the total market return of 15.15 percent, resulting in an equity risk premium of 10.25 percent, as shown on line 4, page 6 of Document No. 5.

Q. Please explain the derivation of an equity risk premium based on the S&P 500 companies.

A. Using data from *Value Line*, I calculated an expected total return on the S&P 500 companies using expected dividend yields and long-term growth estimates as a proxy for capital appreciation. The expected total return for the S&P 500 is 14.14 percent. Subtracting the prospective yield on Moody's Aaa-rated corporate bonds of 4.90 percent results in a 9.24 percent projected equity risk premium as shown on line 5, page 6 of Document No. 5.

Q. Please explain the derivation of an equity risk premium based on Bloomberg data.

A. Using data from Bloomberg, I calculated an expected total return on the S&P 500 using expected dividend yields and

long-term growth estimates as a proxy for capital appreciation, identical to the method described above. The expected total return for the S&P 500 is 17.52 percent. Subtracting the prospective yield on Moody's Aaa-rated corporate bonds of 4.90 percent results in a 12.62 percent projected equity risk premium as shown on line 6, page 6 of Document No. 5.

Q. What is your conclusion of a beta-derived equity risk premium for use in your RPM analysis?

A. I gave equal weight to all six equity risk premiums based on each source – historical, *Value Line*, and Bloomberg – in arriving at a 9.54 percent equity risk premium as shown on line 7, page 6 of Document No. 5.

After calculating the average market equity risk premium of 9.09 percent, I adjusted it by the beta to account for the risk of the Utility Proxy Group. As discussed below, the beta is a meaningful measure of prospective relative risk to the market as a whole, and is a logical way to allocate a company's, or proxy group's, share of the market's total equity risk premium relative to corporate bond yields. As shown on page 1 of Document No. 6, the average of the mean and median beta for the Utility Proxy Group is 0.81.

Multiplying the 0.81 average beta by the market equity risk premium of 9.09 percent results in a Beta-adjusted equity risk premium for the Utility Proxy Group of 7.36 percent (see line 9, page 6 of Document No. 5).

Q. How did you derive the equity risk premium based on the S&P Utility Index and Moody's A-rated public utility bonds?

A. I estimated three equity risk premiums based on the S&P Utility Index holding period returns, and two equity risk premiums based on the expected returns of the S&P Utilities Index, using *Value Line* and Bloomberg data, respectively. Turning first to the S&P Utility Index holding period returns, I derived a long-term monthly arithmetic mean equity risk premium between the S&P Utility Index total returns of 10.63 percent and monthly Moody's A-rated public utility bond yields of 6.44 percent from 1928 to 2019 to arrive at an equity risk premium of 4.20 percent (as shown on line 1, page 10 of Document No. 5). I then used the same historical data to derive an equity risk premium of 5.01 percent based on a regression of the monthly equity risk premiums (as shown on line 2, page 10 of Document No. 5). The final S&P Utility Index holding period equity risk premium involved applying the PRPM using the historical monthly equity risk premiums from January 1928 to December

2023 to arrive at a PRPM-derived equity risk premium of 4.80 percent for the S&P Utility Index (as shown on line 3, page 10 of Document No. 5).

I then derived expected total returns on the S&P Utilities Index of 10.63 percent and 10.61 percent using data from *Value Line* and Bloomberg, respectively, and subtracted the prospective Moody's A2-rated public utility bond yield of 5.63 percent (derived on line 3, page 1 of Document No. 5), which resulted in equity risk premiums of 5.00 percent and 4.98 percent, respectively (as shown on lines 4 and 5, respectively, on page 10 of Document No. 5). As with the market equity risk premiums, I averaged each risk premium based on each source (*i.e.*, historical, *Value Line*, and Bloomberg) to arrive at my utility-specific equity risk premium of 4.80 percent as shown on line 6, page 10 of Document No. 5.

Q. How do you derive an equity risk premium of 4.85 percent based on authorized ROEs for electric utilities?

A. The equity risk premium of 4.85 percent shown on line 3, page 5 of Document No. 5 is the result of a regression analysis based on regulatory awarded ROEs related to the yields on Moody's A2-rated public utility bonds. That

analysis is shown on page 11 of Document No. 5. Page 11 of Document No. 5 contains the graphical results of a regression analysis of 1,232 rate cases for electric utilities which were fully litigated during the period from January 1, 1980, through December 29, 2023. It shows the implicit equity risk premium relative to the yields on A2-rated public utility bonds immediately prior to the issuance of each regulatory decision.

It is readily discernible that there is an inverse relationship between the yield on A2-rated public utility bonds and equity risk premiums. In other words, as interest rates decline, the equity risk premium rises and vice versa, a result consistent with financial literature on the subject.[27] I used the regression results to estimate the equity risk premium applicable to the projected yield on Moody's A2-rated public utility bonds. Given the expected A2-rated utility bond yield of 5.63 percent, it can be calculated that the indicated equity risk premium applicable to that bond yield is 4.85 percent, which is shown on line 3, page 5 of Document No. 5.

Q. What is your conclusion of an equity risk premium for use in your total market approach RPM analysis?

A. The equity risk premium I apply to the Utility Proxy Group is 5.67 percent, which is the average of the beta-adjusted equity risk premium for the Utility Proxy Group, the S&P Utilities Index, and the authorized return utility equity risk premiums of 7.36 percent, 4.80 percent, and 4.85 percent, respectively, as shown on page 5 of Document No. 5.

Q. What is the indicated RPM common equity cost rate based on the total market approach?

A. As shown on line 7, page 1 of Document No. 5, I calculated a common equity cost rate of 11.47 percent for the Utility Proxy Group based on the total market approach RPM.

The Capital Asset Pricing Model

Q. Please explain the theoretical basis of the CAPM.

A. CAPM theory defines risk as the co-variability of a security's returns with the market's returns as measured by the beta (β). A beta less than 1.0 indicates lower variability than the market as a whole, while a beta greater than 1.0 indicates greater variability than the market.

The CAPM assumes that all non-market or unsystematic risk

can be eliminated through diversification. The risk that cannot be eliminated through diversification is called market, or systematic, risk. In addition, the CAPM presumes that investors only require compensation for systematic risk, which is the result of macroeconomic and other events that affect the returns on all assets. The model is applied by adding a risk-free rate of return to a market risk premium, which is adjusted proportionately to reflect the systematic risk of the individual security relative to the total market as measured by the beta. The traditional CAPM model is expressed as:

$$R_s = R_f + \beta(R_m - R_f)$$

Where: R_s = Return rate on the common stock;

R_f = Risk-free rate of return;

R_m = Return rate on the market as a whole; and

β = Adjusted beta (volatility of the security relative to the market as a whole)

Numerous tests of the CAPM have measured the extent to which security returns and beta are related as predicted by the CAPM, confirming its validity. The empirical CAPM ("ECAPM") reflects the reality that while the results of these tests

support the notion that the beta is related to security returns, the empirical Security Market Line ("SML") described by the CAPM formula is not as steeply sloped as the predicted SML.[28]

Q. Why is the use of the ECAPM appropriate in determining the ROE for Tampa Electric?

A. The ECAPM is a well-established model that has been relied on in both academic and regulatory settings. Fama and French clearly state regarding the figure in Document No. 14, that "[t]he returns on the low beta portfolios are too high, and the returns on the high beta portfolios are too low."[29]

In addition, Morin observes that while the results of these tests support the notion that Beta is related to security returns, the empirical SML described by the CAPM formula is not as steeply sloped as the predicted SML. Morin states:

> With few exceptions, the empirical studies agree that … low-beta securities earn returns somewhat higher than the CAPM would predict, and high-beta securities earn less than predicted.[30]
>
> * * *
>
> Therefore, the empirical evidence suggests that the expected return on a security is related to its risk

by the following approximation:

$$K=R_F + x(R_M - R_F) + (1-x)\ \beta(R_M - R_F)$$

where x is a fraction to be determined empirically. The value of x that best explains the observed relationship [is] Return = 0.0829 + 0.0520 β is between 0.25 and 0.30. If x = 0.25, the equation becomes:

$$K = R_F + 0.25(R_M - R_F) + 0.75\ \beta(R_M - R_F)$$ [31]

Fama and French provide similar support for the ECAPM when they state:

> The early tests firmly reject the Sharpe-Lintner version of the CAPM. There is a positive relation between beta and average return, but it is too 'flat.'… The regressions consistently find that the intercept is greater than the average risk-free rate… and the coefficient on beta is less than the average excess market return… This is true in the early tests… as well as in more recent cross-section regressions tests, like Fama and French (1992). [32]

Finally, Fama and French further note:

> Confirming earlier evidence, the relation between beta and average return for the ten portfolios is much flatter than the Sharpe-Linter CAPM predicts. The returns on low beta portfolios are too high, and the

> returns on the high beta portfolios are too low. For example, the predicted return on the portfolio with the lowest beta is 8.3 percent per year; the actual return is 11.1 percent. The predicted return on the portfolio with the highest beta is 16.8 percent per year; the actual is 13.7 percent.[33]

Research from Dianna R. Harrington also supports the use of the ECAPM. Harrington summarizes studies on the predicted results of the CAPM versus the actual returns in her text Modern Portfolio Theory & the Capital Asset Pricing Model:

> So far we have learned some very interesting things about the CAPM and reality. Some of the earliest work tested realized data (history) against data generated by simulated portfolios. Early studies by Douglas (1969) and Lintner (Douglas [1969]) showed discrepancies between what was expected on the basis of the CAPM and the actual relationships that were apparent in the capital markets. Theoretically, the minimal rate of return from the portfolios (the intercept) and the actual risk-free rate for the period should have been equal. They were not.
>
> * * *
>
> Another study, now more famous than Lintner's was

done by Black, Jensen, and Scholes (1972). Lintner had used what is called a cross-sectional method (looking at a number of stock returns during one time period), whereas Black, Jensen, and Scholes used a time-series method (using returns for a number of stocks over several time periods). To make their test, Black, Jensen, and Scholes assumed that what had happened in the past was a good proxy for the investor expectations (a frequent assumption in CAPM tests). Using historical data, they generated estimates using what we call the market model:

$$R_{jt} = \alpha_j + \beta_j (R_{mt}) + \varepsilon_j$$

Where:

R = total returns

β = the slope of the line (the incremental return for risk)

α = the intercept or a constant (expected to be 0 over time and across all firms)

ε = an error term (expected to be random, without information)

m = the market proxy

j = the firm or portfolio

t = the time period

Instead of using single stocks, they formed

portfolios in an effort to wash out one source of error; because betas of single firms are quite unstable. On the basis of the CAPM, they expected to find

1. That the intercept was equal to the risk-free rate (their proxy was the Treasury bill rate)
2. That the capital market line had a positive slope and that riskier (higher beta) securities provided higher return

Instead they found

1. That the intercept was different from the risk-free rate
2. That high-risk securities earned less and low-risk securities earned more than predicted by the model
3. That the intercept seemed to depend on the beta of any asset: high-beta stocks had a different intercept than low-beta stocks

* * *

Fama and MacBeth (1974) criticized the Black, Jensen, and Scholes study (hereafter called BJS). In a reformation of the study, they supported the

> first of the BJS findings. They found that the intercept exceeded the risk-free proxy, but did not find the evidence to support the other BJS conclusions.[34]

Harrington discusses Black's potential solution to this phenomenon:

> Black's replacement for the risk-free asset was a portfolio that had no covariability with the market portfolio. Because the relevant risk in the CAPM is systematic risk, a risk-free asset would be the one with no volatility relative to the market – that is, a portfolio with a beta of zero. All investor-perceived levels of risk could be obtained from various linear combinations of Black's zero-beta portfolio and the market portfolio… Since R_z (the rate of return of the zero-beta asset) and R_m are uncorrelated (as R_f and R_m were assumed to be in the simple CAPM), the investor can choose from various combinations of R_z and R_m. On segment R_mY, R_z, is sold short and proceeds are invested in R_m. On segment R_zR_m, portions of the zero-beta portfolio are purchased. At R_m, the investor is fully invested in the market portfolio. The equilibrium CAPM was rewritten by Black as follows:

$$E(R_i) = (1 - \beta_i) E(R_z) + \beta_i E(R_m)$$

Where:

E indicates expected,

$E(R_z)$ is less than $E(R_m)$, and

R_z holdings over the whole market must be in equilibrium. That is, the number of short sellers and lenders of securities must be equal.

Black's adaptation is intriguing. The result of using this model is a capital market line that has a less steep slope and a higher intercept than those of the simple CAPM. If Black's model is more correct in its description of investor behavior in the marketplace, then the use of the simple model would produce equity return predictions that would be too low for stocks with betas greater than one and too high for stocks with betas of less than one.[35]

Clearly, the justification from Morin, Fama and French, and Harrington, along with their reviews of other academic research on the CAPM, validate the use of the ECAPM. In addition, the New York Public Service Commission has been using this form of the CAPM, with factors of 0.25 and 0.75, since the mid-1990s. As such, the ECAPM is a well-established model that has been relied on in both academic and regulatory settings. I continue to believe it is an

appropriate model to estimate Tampa Electric's ROE, and in view of theory and practical research, I have applied both the traditional CAPM and the ECAPM to the companies in the Utility Proxy Group and averaged the results.

Q. What betas did you use in your CAPM analysis?

A. For the betas in my CAPM analysis, I considered two sources: *Value Line* and Bloomberg. While both of those services adjust their calculated (or "raw") betas to reflect the tendency of the beta to regress to the market mean of 1.00, *Value Line* calculates the beta over a five-year period, while Bloomberg calculates it over a two-year period.

Q. Please describe your selection of a risk-free rate of return.

A. As shown in Column 5, page 1 of Document No. 6, the risk-free rate adopted for both applications of the CAPM is 4.15 percent. This risk-free rate is based on the average of the *Blue Chip* consensus forecast of the expected yields on 30-year U.S. Treasury bonds for the six quarters ending with the second calendar quarter of 2025, and long-term projections for the years 2025 to 2029 and 2030 to 2034.

Q. Why is the yield on long-term U.S. Treasury bonds appropriate for use as the risk-free rate?

A. The yield on long-term U.S. Treasury bonds is almost risk-free and its term is consistent with the long-term cost of capital of public utilities measured by the yields on Moody's A2-rated public utility bonds; the long-term investment horizon inherent in utilities' common stocks; and the long-term life of the jurisdictional rate base to which the allowed fair rate of return (*i.e.*, cost of capital) will be applied. In contrast, short-term U.S. Treasury yields are more volatile and largely a function of Federal Reserve monetary policy.

Q. Please explain the estimation of the expected risk premium for the market used in your CAPM analyses.

A. The basis of the market risk premium is explained in detail in note 1, page 2 of Document No. 6. As discussed above, the market risk premium is derived from an average of three historical data-based market risk premiums, two *Value Line* data-based market risk premiums, and one Bloomberg data-based market risk premium.

The long-term income return on U.S. Government securities

of 5.00 percent was deducted from the SBBI - 2023 monthly historical total market return of 12.03 percent, which results in an historical market equity risk premium of 7.03 percent.[36] I applied a linear OLS regression to the monthly annualized historical returns on the S&P 500 relative to historical yields on long-term U.S. Government securities from SBBI - 2023. That regression analysis yielded a market equity risk premium of 8.27 percent. The PRPM market equity risk premium is 10.44 percent and is derived using the PRPM relative to the yields on long-term U.S. Treasury securities from January 1926 through December 2023.

The *Value Line*-derived forecasted total market equity risk premium is derived by deducting the forecasted risk-free rate of 4.15 percent, discussed above, from the *Value Line* projected total annual market return of 15.15 percent, resulting in a forecasted total market equity risk premium of 11.00 percent. The S&P 500 projected market equity risk premium using *Value Line* data is derived by subtracting the projected risk-free rate of 4.15 percent from the projected total return of the S&P 500 of 14.14 percent. The resulting market equity risk premium is 9.99 percent.

The S&P 500 projected market equity risk premium using Bloomberg data is derived by subtracting the projected risk-

free rate of 4.15 percent from the projected total return of the S&P 500 of 17.52 percent. The resulting market equity risk premium is 13.37 percent. These six measures, when averaged, result in an average total market equity risk premium of 10.02 percent as shown on page 2 of Document No. 6.

Q. What are the results of your application of the traditional and empirical CAPM to the Utility Proxy Group?

A. As shown on page 1 of Document No. 6, the adjusted mean result of my CAPM/ECAPM analyses is 12.45 percent, the adjusted median is 12.50 percent, and the average of the two is 12.48 percent. Consistent with my reliance on the average of mean and median DCF results discussed above, the indicated common equity cost rate using the CAPM/ECAPM is 12.48 percent.

Common Equity Cost Rates for a Proxy Group of Domestic, Non-Price Regulated Companies Based on the DCF, RPM, and CAPM

Q. Why do you also consider a proxy group of domestic, non-price regulated companies?

A. Although I am not an attorney, my interpretation of the *Hope* and *Bluefield* cases is that they did not specify that

comparable risk companies had to be utilities. Since the purpose of rate regulation is to be a substitute for marketplace competition, non-price regulated firms operating in the competitive marketplace make an excellent proxy if they are comparable in total risk to the Utility Proxy Group being used to estimate the cost of common equity. The selection of such domestic, non-price regulated competitive firms theoretically and empirically results in a proxy group that is comparable in total risk to the Utility Proxy Group, since all of these companies compete for capital in the exact same markets.

Q. How did you select non-price regulated companies that are comparable in total risk to the Utility Proxy Group?

A. In order to select a proxy group of domestic, non-price regulated companies similar in total risk to the Utility Proxy Group, I relied on the betas and related statistics derived from *Value Line* regression analyses of weekly market prices over the most recent 260 weeks (*i.e.*, five years). These selection criteria resulted in a proxy group of 48 domestic, non-price regulated firms comparable in total risk to the Utility Proxy Group. Total risk is the sum of non-diversifiable market risk and diversifiable company-specific risks. The criteria used in selecting the domestic,

non-price regulated firms were:

- They must be covered by *Value Line* (Standard Edition);
- They must be domestic, non-price regulated companies, *i.e.*, not utilities;
- Their betas must lie within plus or minus two standard deviations of the average unadjusted betas of the Utility Proxy Group; and
- The residual standard errors of the *Value Line* regressions which gave rise to the unadjusted betas must lie within plus or minus two standard deviations of the average residual standard error of the Utility Proxy Group.

Betas measure market, or systematic, risk, which is not diversifiable. The residual standard errors of the regressions measure each firm's company-specific, diversifiable risk. Companies that have similar betas and similar residual standard errors resulting from the same regression analyses have similar total investment risk.

Q. Have you prepared a schedule which shows the data from which you selected the 45 domestic, non-price regulated companies that are comparable in total risk to the Utility Proxy Group?

A. Yes, the basis of my selection and both proxy groups' regression statistics are shown in Document No. 7.

Q. Did you calculate common equity cost rates using the DCF model, RPM, and CAPM for the Non-Price Regulated Proxy Group?

A. Yes. Because the DCF model, RPM, and CAPM have been applied in an identical manner as described above, I will not repeat the details of the rationale and application of each model. One exception is in the application of the RPM, where I did not use public utility-specific equity risk premiums.

Page 2 of Document No. 8 derives the constant growth DCF model common equity cost rate. As shown, the indicated common equity cost rate, using the constant growth DCF for the Non-Price Regulated Proxy Group comparable in total risk to the Utility Proxy Group, is 10.80 percent.

Pages 3 through 5 of Document No. 8 contain the data and calculations that support the 13.76 percent RPM common equity cost rate. As shown on line 1, page 3 of Document No. 8, the consensus prospective yield on Moody's Baa-rated corporate bonds for the six quarters ending in the second quarter of 2025, and for the years 2025 to 2029 and 2030 to 2034, is 5.95 percent.[37] Since the Non-Price Regulated Proxy Group has an average Moody's long-term issuer rating of A3, a downward adjustment of 0.28 percent to the projected Baa2-

rated corporate bond yield is necessary to reflect the difference in ratings which results in a projected A3-rated corporate bond yield of 5.67 percent for the Non-Regulated Proxy Group.

When the Beta-adjusted risk premium of 8.09 percent (as derived on page 5 of Document No. 8) relative to the Non-Price Regulated Proxy Group is added to the prospective A3-rated corporate bond yield of 5.67 percent, the indicated RPM common equity cost rate is 13.76 percent.

Page 6 of Document No. 8 contains the inputs and calculations that support my indicated CAPM/ECAPM common equity cost rate of 13.28 percent.

Q. What is the cost rate of common equity based on the Non-Price Regulated Proxy Group comparable in total risk to the Utility Proxy Group?

A. As shown on page 1 of Document No. 8, the results of the common equity models applied to the Non-Price Regulated Proxy Group – which group is comparable in total risk to the Utility Proxy Group – are as follows: 10.80 percent (DCF), 13.76 percent (RPM), and 13.28 percent (CAPM). The average of the mean and median of these models is 12.95 percent,

which I used as the indicated common equity cost rates for the Non-Price Regulated Proxy Group.

VII. CONCLUSION OF COMMON EQUITY COST RATE BEFORE ADJUSTMENTS

Q. What is the indicated common equity cost rate before adjustments?

A. By applying multiple cost of common equity models to the Utility Proxy Group and the Non-Price Regulated Proxy Group, the indicated range of common equity cost rates attributable to the Utility Proxy Group before any relative risk adjustments is between 9.89 percent (DCF model result) and 12.48 percent (CAPM result) and 9.89 percent to 12.41 percent excluding the PRPM in the market risk premium as shown in Document No. 2. I used multiple cost of common equity models as primary tools in arriving at my recommended common equity cost rate because no single model is so inherently precise that it can be relied on to the exclusion of other theoretically sound models. Using multiple models adds reliability to the estimated common equity cost rate, with the prudence of using multiple cost of common equity models supported in both the financial literature and regulatory precedent.

Based on these common equity cost rate results, I conclude

that a range of common equity cost rates between 9.89 percent and 12.48 percent is reasonable and appropriate before any adjustments for relative risk differences between the company and the Utility Proxy Group are made.

VIII. ADJUSTMENTS TO THE COMMON EQUITY COST RATE

Flotation Costs

Q. What are flotation costs?

A. Flotation costs are those costs associated with the sale of new issuances of common stock. They include market pressure and the mandatory unavoidable costs of issuance (*e.g.*, underwriting fees and out-of-pocket costs for printing, legal, registration, etc.). For every dollar raised through debt or equity offerings, the company receives less than one full dollar in financing.

Q. Has the Commission supported the use of flotation cost adjustments in past rate proceedings?

A. Yes. In Peoples Gas System, Inc.'s recent 2023 rate proceeding the Commission noted:

> In PGS's last rate case in 2008, we did not make a specific adjustment for flotation costs, but in our order we stated that we have traditionally recognized

> a reasonable adjustment for flotation costs in the determination of the investor required return...We find witness D'Ascendis's method to determine the flotation cost is credible and provided persuasive evidence for his recommendation to include a flotation cost of 9 basis points.[38]

Q. Why is it important to recognize flotation costs in the allowed common equity cost rate?

A. It is important because there is no other mechanism in the ratemaking paradigm through which such costs can be recognized and recovered. Because these costs are real, necessary, and legitimate, recovery of these costs should be permitted. As noted by Morin:

> The costs of issuing these securities are just as real as operating and maintenance expenses or costs incurred to build utility plants, and fair regulatory treatment must permit recovery of these costs…
>
> The simple fact of the matter is that common equity capital is not free… [Flotation costs] must be recovered through a rate of return adjustment.[39]

Q. Should flotation costs be recognized whether or not there is a stock issuance of additional shares during the test year?

A. Yes. As noted above, there is no mechanism to recapture such costs in the ratemaking paradigm other than an adjustment to the allowed common equity cost rate. Flotation costs are charged to capital accounts and are not expensed on a utility's income statement. As such, flotation costs are analogous to capital investments, albeit negative, reflected on the balance sheet. Recovery of capital investments relates to the expected useful lives of the investment. Since common equity has a very long and indefinite life (assumed to be infinity in the standard regulatory DCF model), flotation costs should be recovered through an adjustment to common equity cost rate, even when there has not been an issuance during the test year, or in the absence of an expected imminent issuance of additional shares of common stock.

Historical flotation costs are a permanent loss of investment to the utility and should be accounted for. When any company, including a utility, issues common stock, flotation costs are incurred for legal, accounting, printing fees and the like. For each dollar of issuing market price, a small percentage is expensed and is permanently unavailable for investment in utility rate base. Since these expenses are charged to capital accounts and not expensed on the income statement, the only way to restore the full value of that dollar of issuing price with an assumed investor required return of 10.00 percent is

for the net investment, $0.95, to earn more than 10.00 percent to net back to the investor a fair return on that dollar. In other words, if a company issues stock at $1.00 with 5.00 percent in flotation costs, it will net $0.95 in investment. Assuming the investor in that stock requires a 10.00 percent return on his or her invested $1.00 (*i.e.*, a return of $0.10), the company needs to earn approximately 10.5 percent on its invested $0.95 to receive a $0.10 return.

Q. Do the common equity cost rate models you have used already reflect investors' anticipation of flotation costs?

A. No. All of these models assume no transaction costs. The literature is quite clear that these costs are not reflected in the market prices paid for common stocks. For example, Brigham and Daves confirm this and provide the methodology utilized to calculate the flotation adjustment.[40] In addition, Morin confirms the need for such an adjustment even when no new equity issuance is imminent.[41] Consequently, it is proper to include a flotation cost adjustment when using cost of common equity models to estimate the common equity cost rate.

Q. How did you calculate the flotation cost allowance?

A. I modified the DCF calculation to provide a dividend yield that would reimburse investors for issuance costs in accordance with the method cited in literature by Brigham and Daves, as well as by Morin. The flotation cost adjustment recognizes the actual costs of issuing equity that were incurred by Tampa Electric's parent, Emera, in its equity issuances since its acquisition of Tampa Electric. Based on the issuance costs shown on page 1 of Document No. 9, an adjustment of 0.10 percent is required to reflect the flotation costs applicable to the Utility Proxy Group.

Credit Risk Adjustment

Q. Please discuss your proposed credit risk adjustment.

A. Tampa Electric's long-term issuer ratings are A3 and BBB+ from Moody's Investors Services and S&P, respectively, which are slightly less risky than the average long-term issuer ratings for the Utility Proxy Group of Baa1 and BBB+, respectively.[42] Hence, a downward credit risk adjustment is necessary to reflect the less risky credit rating, i.e., A3, of Tampa Electric relative to the Baa1 average Moody's bond rating of the Utility Proxy Group.[43]

An indication of the magnitude of the necessary downward adjustment to reflect the lesser credit risk inherent in a A3

bond rating is one-third of a recent three-month average spread between Moody's A2 and Baa2-rated public utility bond yields of 0.25 percent, shown on page 4 of Document No. 5, or 0.08 percent.[44]

Other Considerations

Q. What company-specific business risks did you consider in your analysis?

A. As detailed below, I've considered the company's size relative to the Utility Proxy Group, lack of geographic diversification, and higher climate risk relative to the Utility Proxy Group in my ROE recommendation.

Q. Why is it necessary to consider Tampa Electric's size relative to the Utility Proxy Group?

A. A smaller size relative to the Utility Proxy Group companies indicates greater relative business risk for the company because, all else being equal, size has a material bearing on risk. Size affects business risk because smaller companies generally are less able to cope with significant events that affect sales, revenues and earnings. For example, smaller companies face more risk exposure to business cycles and economic conditions, both nationally and locally.

Additionally, the loss of revenues from a few larger customers would have a greater effect on a small company than on a bigger company with a larger, more diverse, customer base. This is true for utilities, as well as for non-regulated companies.

As further evidence that smaller firms are riskier, investors generally demand greater returns from smaller firms to compensate for less marketability and liquidity of their securities. Kroll's Cost of Capital Navigator: U.S. Cost of Capital Module ("Kroll") discusses the nature of the small-size phenomenon, providing an indication of the magnitude of the size premium based on several measures of size. In discussing "Size as a Predictor of Equity Premiums," Kroll states:

> The size effect is based on the empirical observation that companies of smaller size are associated with greater risk and, therefore, have greater cost of capital [sic]. The "size" of a company is one of the most important risk elements to consider when developing cost of equity capital estimates for use in valuing a business simply because size has been shown to be a *predictor* of equity returns. In other words, there is a significant (negative) relationship between size

> and historical equity returns - as size *decreases*, returns tend to *increase*, and vice versa. (footnote omitted) (emphasis in original)[45]

Furthermore, in "The Capital Asset Pricing Model: Theory and Evidence," Fama and French note size is indeed a risk factor which must be reflected when estimating the cost of common equity. On page 14, they note:

> . . . the higher average returns on small stocks and high book-to-market stocks reflect unidentified state variables that produce undiversifiable risks (covariances) in returns not captured in the market return and are priced separately from market betas.[46]

Based on this evidence, Fama and French proposed their three-factor model which includes a size variable in recognition of the effect size has on the cost of common equity.

Also, it is a basic financial principle that the use of funds invested, and not the source of funds, is what gives rise to the risk of any investment.[47] Eugene Brigham, a well-known authority, states:

> A number of researchers have observed that portfolios of small-firms (sic) have earned

> consistently higher average returns than those of large-firm stocks; this is called the "small-firm effect." On the surface, it would seem to be advantageous to the small firms to provide average returns in a stock market that are higher than those of larger firms. In reality, it is bad news for the small firm; **what the small-firm effect means is that the capital market demands higher returns on stocks of small firms than on otherwise similar stocks of the large firms.** (emphasis added)[48]

Consistent with the financial principle of risk and return discussed above, increased relative risk due to small size must be considered in the allowed rate of return on common equity.

Q. Is a relative risk adjustment due to Tampa Electric's small size when compared to the Utility Proxy Group necessary in this proceeding?

A. No. Tampa Electric has similar risk to the average utility in the Utility Proxy Group because, Tampa Electric is similar in size to the Utility Proxy Group companies. I measured Tampa Electric's size based on an estimated market capitalization of common equity for Tampa Electric (whose

common stock is not publicly traded).

As shown on Document No. 10, Tampa Electric's estimated market capitalization was $8.98 billion as of December 29, 2023, compared with the market capitalization of the average company in the Utility Proxy Group of $15.9 billion as of December 29, 2023. The average company in the Utility Proxy Group has a market capitalization 1.8 times the size of Tampa Electric's estimated market capitalization.

As a result, it is necessary to consider if an adjustment to the indicated range of common equity cost rates attributable to the Utility Proxy Group is necessary solely on the difference in size between the two. The determination is based on the size premiums for portfolios of New York Stock Exchange, American Stock Exchange, and NASDAQ listed companies ranked by deciles for the 1926 to 2022 period. The average size premium for the Utility Proxy Group with a market capitalization of $15.9 billion falls in the 2nd decile, while the company's estimated market capitalization of $8.98 billion places it in the 3rd decile. The size premium spread between the 2nd decile and the 3rd decile is 0.12 percent. It is my determination that the size premium spread between the 2nd and 3rd decile of 0.12 percent is not significant enough to include it in the determination of my

recommended range of ROEs at this time. That said, the company's lack of geographic diversity due to its small size is cause for concern.

Q. Please describe the company's lack of geographic diversity and why that increases its relative risk?

A. Tampa Electric's service area in West Central Florida is extremely compact compared to other Florida investor-owned utilities or the Utility Proxy Group as shown on Document No. 11. In the event of a substantial storm or other catastrophic event, the entire system and customer base of Tampa Electric is at risk for damage, outages, and other customer impacts. This is unlike other utilities in Florida, and more importantly, the Utility Proxy Group, which have more geographically diverse service areas or larger service territories, which may only have a portion of the system assets and customer base affected in the case of storms or other natural disasters or catastrophic events, allowing the unaffected areas and assets to help mitigate certain impacts and help sustain the utility while repairs are made in affected areas. Tampa Electric's smaller size and limited geographic diversity have also been recognized as key risks in the company's recent S&P and Moody's credit ratings reports.[49]

Q. How did you assess Tampa Electric's risk associated with extreme weather?

A. The Federal Emergency Management Agency ("FEMA") calculates the National Risk Index ("NRI") for each county in the United States. The measure is calculated as the expected annual loss[50] associated with 18 naturally occurring hazards (e.g., hurricanes, floods, earthquakes, etc.) multiplied by a community risk factor, which is determined based on social vulnerability of the county and community resilience. The resulting risk index measures the potential for negative effects of naturally occurring hazards. Of the 3,143 counties in the United States, Hillsborough County, which includes Tampa and a majority of Tampa Electric's customers, is ranked 15th in terms of risk and carries a risk rating of Very High (the highest risk rating). That ranking is driven by the fourth highest expected annual loss value associated with hurricanes of all counties in the United States.

Further, between 1980 and 2023 Florida trails only Texas for the highest cost associated with major natural disasters that resulted in over $1 billion in costs (CPI-adjusted), incurring over $390 billion as a result of weather-related events during that period.[51] Over the most recent five years, Florida leads all states in terms of costs associated

with major weather events, incurring between $100 billion and $200 billion.[52]

In addition, such major weather events are becoming more common. Since 2014, there were a total of 58 severe storms or tropical cyclones that impacted Florida and resulted in at least $1 billion in damages, 21 of which occurred after 2019.[53] In the ten-year period between 2014 and 2023 there were ten *more* such events than in the 34 years from 1980 through 2013 (34 and 24 weather events, respectively).

Q. Is Tampa Electric's risk associated with extreme weather relatively high as compared to the Utility Proxy Group?

A. Yes, it is. As shown in Document No. 12, I calculated two measures based on the FEMA NRI data. First, I calculated the average risk score for each of the companies in the Utility Proxy Group and for Tampa Electric based on the counties in which they operate. In addition, using the same data, I also calculated a county area (i.e., square miles) weighted risk score. That is, larger counties within a proxy company's service area have a higher weight in calculating the weighted average risk score. As shown in Document No. 12, the average and median risk scores for the Utility Proxy Group fall in the Relatively Low category, while Tampa

Electric's risk score is higher than any of the companies in the Utility Proxy Group and falls at the high end of the Relatively High category. As noted above, Hillsborough County, which includes the city of Tampa falls in the Very High risk category. Based on those results, Tampa Electric has a uniquely high level of risk as compared to the Utility Proxy Group.

Q. Does Tampa Electric's storm reserve insulate the company from the risks associated with hurricanes?

A. Not entirely. Tampa Electric utilizes a storm reserve, which is funded through base rates for restoration costs associated with major storms. The storm reserve can be as high as $56 million, which is the level of the reserve as of October 31, 2013.[54] Tampa Electric may petition the Commission for recovery of restoration costs above the storm reserve and to replenish the storm reserve. The storm cost recovery surcharge is capped at $4.00/ 1,000 kWh for a 12-month period. However, Tampa Electric can petition the Commission to increase the surcharge or extend the recovery period if the company incurs costs greater than $100 million in a given calendar year.[55] The company recently had to petition the Commission for such a surcharge and extension of the recovery period in response to Hurricanes Ian and

Nicole in late 2022, which resulted in total restoration costs of $134 million. The restoration costs are being recovered through a surcharge to customers' bills beginning April 2023 and ending in December 2024. In September 2023, Tampa Electric also incurred $35 million in storm restoration costs associated with Hurricane Idalia. The company has not yet sought recovery of those costs.[56]

As shown by the company's recent experience, the level of the storm reserve does not cover the total restoration expenses associated with hurricanes that have a larger effect on the company's service territory, such as Hurricane Ian. As a result, even with the possibility to recover costs by petitioning the Commission outside of a rate case, regulatory lag remains, especially for significant storms with costs over $100 million. For example, Tampa Electric's storm related costs incurred in September and November 2022 will not be fully recovered until December 2024. In addition, the risk of disallowances of restoration costs remains as well. Further, the increased frequency of hurricanes and other large storms will only serve to increase restoration costs and the need to recover those costs. As noted above, restoration costs associated with Hurricane Idalia have not yet been recovered but have been incurred by Tampa Electric. This occurred while Tampa

Electric was still recovering its restoration costs associated with two prior hurricanes, which included an extension to the recovery period beyond a single calendar year.

Q. Have credit rating agencies noted Tampa Electric's risk associated with hurricanes?

A. Yes, they have. Although Moody's notes that it views the Commission's regulatory treatment of storm costs as credit supportive, it also states that, "Tampa Electric is a relatively small utility with a concentrated service territory along the Gulf Coast of western central Florida, making it vulnerable to storm related event risk."[57] S&P similarly notes that, "[Tampa Electric's] service territory is more susceptible to physical risks related to hurricanes,"[58] and also finds that, "Relative to peers, physical risks associated with coastal storms are evident…"[59]

Q. What are your conclusions as they relate to Tampa Electric's risk associated with extreme weather?

A. Tampa Electric faces relatively higher risk from extreme weather events as compared to the Utility Proxy Group. Tampa Electric's customer base is highly concentrated in the city

of Tampa and Hillsborough County. Hillsborough County is one of the highest risk counties in the United States as it relates to the potential effect of natural disasters. In addition, the frequency of major storms impacting Florida has increased in recent years. Although Tampa Electric has the ability to utilize a storm reserve and petition the Commission to recover additional restoration costs above the reserve level, that regulatory framework does not eliminate the risk faced by the company. As such, Tampa Electric's relatively higher risk associated with extreme weather is unique to the company (as compared to the Utility Proxy Group) and should be considered when determining the appropriate ROE in this proceeding.

Q. Have you considered any other company-specific issues in your recommended ROE?

A. Yes, I have. In addition to the company's flotation costs, relative credit rating, and its smaller relative size I have also considered the company's high customer growth, and level of capital expenditures compared to the Utility Proxy Group companies in my ROE recommendation.

Q. Please describe the company's high customer growth.

A. Tampa Electric's total number of retail customers has increased by 63,500 (*i.e.*, approximately 8.4 percent) over the past five years.[60] The increased customer growth in Tampa Electric's service territory necessitates increased and accelerated capital investment.

Q. Please briefly summarize the company's capital investment plans.

A. Tampa Electric currently plans to invest over $6.2 billion of additional capital over the 2024-2027 period,[61] which represents over 68.00 percent of its 2022 year-end net utility plant.[62] That amount includes investments required to support growth, and to maintain safe, sufficient, and reliable service in both its transmission and distribution facilities. As discussed by Mr. Chronister, the company will require continued access to the capital markets, at reasonable terms, to finance its capital spending plan. As the company moves forward with its capital spending plan, timely recovery of its capital costs is critical to mitigate the delay of capital recovery and execute its capital spending program.

Q. Do substantial capital expenditures directly relate to a utility being allowed the opportunity to earn a return

adequate to attract capital at reasonable terms?

A. Yes, they do. The allowed ROE should enable the subject utility to finance capital expenditures and working capital requirements at reasonable rates, and to maintain its financial integrity in a variety of economic and capital market conditions. As discussed throughout my direct testimony, a return adequate to attract capital at reasonable terms enables the utility to provide safe, reliable service while maintaining its financial soundness. To the extent a utility is provided the opportunity to earn its market-based cost of capital, neither customers nor shareholders should be disadvantaged. These requirements are of particular importance to a utility when it is engaged in a substantial capital expenditure program.

The ratemaking process is predicated on the principle that, for investors and companies to commit the capital needed to provide safe and reliable utility services, the utility must have the opportunity to recover the return of, and the market-required return on, invested capital. Regulatory commissions recognize that since utility operations are capital intensive, regulatory decisions should enable the utility to attract capital at reasonable terms; doing so balances the long-term interests of the utility and its

ratepayers.

Further, the financial community carefully monitors the current and expected financial conditions of utility companies, as well as the regulatory environment in which those companies operate. In that respect, the regulatory environment is one of the most important factors considered in both debt and equity investors' assessments of risk. That is especially important during periods in which the utility expects to make significant capital investments and, therefore, may require access to capital markets.

Q. Do credit rating agencies recognize risk associated with increased capital expenditures?

A. Yes, they do. From a credit perspective, the additional pressure on cash flows associated with high levels of capital expenditures exerts corresponding pressure on credit metrics and, therefore, credit ratings. S&P has noted several long-term challenges for utilities' financial health including: heavy construction programs to address demand growth; declining capacity margins; and aging infrastructure and regulatory responsiveness to mounting requests for rate increases.[63] S&P noted:

> We assume that capital spending will remain a focus of

> most utility managements and strain credit metrics. It provides growth when sales are diminished by ongoing demanded efficiency from regulators and other trends, and it is welcomed by policymakers that appreciate the economic stimulus and the benefits of safer, more reliable service. The speed with which the regulatory process turns the new spending into higher rates to begin to pay for it is an important factor in our assumptions and the forecast. Any extended lag between spending and recovery can exacerbate the negative effect on credit metrics and therefore ratings.[64]

The rating agency views noted above also are consistent with certain observations discussed in my direct testimony: (1) the benefits of maintaining a strong financial profile are significant when capital access is required and become particularly acute during periods of market instability; and (2) the Commission's decision in this proceeding will have a direct bearing on the company's credit profile and its ability to access the capital needed to fund its investments.

Q. How do the company's expected capital expenditures compare to the Utility Proxy Group?

A. To reasonably make that comparison, I calculated the ratio of expected capital expenditures to net plant for each company in the Utility Proxy Group. I performed that calculation using Tampa Electric's projected capital expenditures during 2024 through 2027 relative to its net plant for the year ended December 31, 2022. As shown in Document No. 13, Tampa Electric has the highest ratio of projected capital expenditures to net plant relative to the Utility Proxy Group, approximately 26.00 percent higher than the Utility Proxy Group median.

Q. What are your conclusions regarding the effect of Tampa Electric's capital investment plan on its risk profile and cost of capital?

A. It is clear that Tampa Electric's capital investment plan relative to net plant is larger than the median of the Utility Proxy Group companies. It also is clear that equity investors and credit rating agencies recognize the additional risks associated with substantial capital expenditures.

Q. What is the indicated cost of common equity after your company-specific adjustments?

A. Applying the 0.10 percent flotation cost adjustment and the negative 0.08 percent credit risk adjustment to the indicated range of common equity cost rates between 9.89 percent and 12.48 percent results in a company-specific range of common equity rates between 9.90 percent and 12.49 percent. Applying the same adjustments to the 9.89 percent to 12.89 percent range excluding the PRPM from the market risk premium produces a range of 9.90 percent to 12.42 percent. In consideration of these indicated ranges in addition to the company's relatively small service area, weather risk, high customer growth, and its substantial capital expenditure program, I recommend an ROE of 11.50 percent for Tampa Electric in this proceeding.

IX. CONCLUSION

Q. What is your recommended ROE for Tampa Electric?

A. Given the discussion above and the results from the analyses that I have performed, I recommend that an ROE of 11.50 percent is appropriate for the company at this time.

Q. In your opinion, is your proposed ROE of 11.50 percent fair and reasonable to the company and its customers?

A. Yes, it is.

Q. In your opinion, is the company's proposed equity ratio of 54.00 percent fair and reasonable to the company and its customers?

A. Yes, it is.

Q. Does this conclude your prepared direct testimony?

A. Yes, it does.

(Whereupon, prefiled rebuttal testimony of Dylan W. D'Ascendis was inserted.)

D10-528

BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 20240026-EI

IN RE: PETITION FOR RATE INCREASE

BY TAMPA ELECTRIC COMPANY

REBUTTAL TESTIMONY AND EXHIBIT

OF

DYLAN W. D'ASCENDIS, CRRA, CVA

ON BEHALF OF TAMPA ELECTRIC COMPANY

D10-528

TABLE OF CONTENTS

PREPARED REBUTTAL TESTIMONY AND EXHIBIT

OF

DYLAN W. D'ASCENDIS, CRRA, CVA

ON BEHALF OF TAMPA ELECTRIC COMPANY

DOCKET NO. 20240026-EI
WITNESS: D'ASCENDIS
FILED: 07/02/2024

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

PREPARED REBUTTAL TESTIMONY

OF

DYLAN W. D'ASCENDIS, CRRA, CVA

ON BEHALF OF TAMPA ELECTRIC COMPANY

I. INTRODUCTION AND PURPOSE

Q. Please state your name, affiliation, and business address.

A. My name is Dylan W. D'Ascendis. I am a Partner at ScottMadden, Inc. My business address is 3000 Atrium Way, Suite 200, Mount Laurel, New Jersey 08054.

Q. On whose behalf are you submitting this testimony?

A. I am submitting this rebuttal testimony before the Florida Public Service Commission ("Commission") on behalf of Tampa Electric Company ("Tampa Electric" or "the company").

Q. Did you submit direct testimony in this proceeding?

A. Yes, I did.

Q. What is the purpose of your rebuttal testimony in this proceeding?

A. The purpose of my rebuttal testimony is twofold. First, I update the analysis presented in my direct testimony to reflect current data. Second, I respond to the direct testimonies of Dr. J. Randall Woolridge, witness for the Florida Office of Public Counsel ("OPC"), Mr. Christopher C. Walters, witness for the Federal Executive Agencies ("FEA"), Mr. Steve W. Chriss, witness for the Florida Retail Federation ("FRF"), Mr. Jeffry Pollock, witness for the Florida Industrial Power Users Group ("FIPUG"), and Mr. Karl R. Rábago, witness for Florida Rising and the League of United Latin American Citizens of Florida ("FL Rising/LULAC")(collectively, the "Opposing ROE Witnesses") concerning the appropriate return on common equity ("ROE") that the company should be given the opportunity to earn on its jurisdictional electric rate base.

II. SUMMARY

Q. Please summarize your conclusions.

A. Due to the passage of time since my direct testimony, which uses market data as of December 24, 2023, I have

updated my ROE analysis using data as of May 31, 2024. Based on these updated analyses, my reasonable ranges of ROEs attributable to Tampa Electric are between 10.31 percent and 11.93 percent (including Predictive Risk Premium Model ("PRPM") and 10.31 percent and 11.88 percent (excluding PRPM). Given these ranges, my recommended ROE of 11.50 percent continues to be reasonable. Conversely, recommended ROEs of 9.50 percent (OPC), 9.60 percent (FEA) are inadequate at this time.[1]

Q. Please summarize the key issues that you address in your rebuttal testimony.

A. My rebuttal testimony responds to the substantive recommendations offered by Dr. Woolridge and Mr. Walters and the application of the analytical models in their direct testimonies. For example, I generally disagree with Dr. Woolridge's and Mr. Walters' use of "sustainable" growth rates in their Discounted Cash Flow ("DCF") models and their applications of the Capital Asset Pricing Model ("CAPM"). These factors serve to bias Dr. Woolridge's and Mr. Walters' ROE recommendations downward. My rebuttal testimony discusses these factors and others in detail. My rebuttal testimony also addresses the Opposing ROE Witnesses' unfounded critiques of my direct

testimony.

Q. How is the remainder of your rebuttal testimony organized?

A. The remainder of my rebuttal testimony is organized as follows:

- Section III – Presents my updated ROE analysis;
- Section IV – Discusses the relevance of historical authorized ROEs;
- Section V – Responds to the direct testimony of Dr. Woolridge;
- Section VI – Responds to the direct testimony of Mr. Walters;
- Section VII – Responds to the direct testimony of Mr. Chriss;
- Section VIII – Responds to the direct testimony of Mr. Pollock;
- Section IX – Responds to the direct testimony of Mr. Rábago; and
- Section X – Presents my conclusions.

Q. Have you prepared Documents in support of your rebuttal testimony?

A. Yes. I have prepared Document Nos. 1 through 19, which

were completed under my direction and control and are included as Exhibit DWD-2.

III. UPDATED ANALYSIS AND RECOMMENDATION

Q. Have you updated your cost of common equity analyses for your rebuttal testimony?

A. Yes, I have. Due to the passage of time since my direct testimony analysis (data as of December 29, 2023), I have updated my analysis using data as of May 31, 2024.

Q. Have you applied ROE models in the same manner in your updated analyses?

A. Yes, I have.

Q. What are the results of your updated analyses?

A. Using data available as of May 31, 2024, my updated ROE model results are presented in page 1 Document No. 1.

My updated model results range from 10.29 percent (DCF) to 12.50 percent (Non-Price Regulated Proxy Group results). My recommended range is from 10.29 percent (DCF) to 11.91 percent (CAPM). Given these ranges, I maintain

my recommended ROE of 11.50 percent.

Q. Dr. Woolridge claims that you give little weight to your DCF results.[2] Do you agree with his claim?

A. No, I do not. My indicated ranges of results for Tampa Electric use the DCF at the low end of the range and the CAPM results for the high end of the range. While my recommended ROE of 11.50 percent is somewhat above the midpoint of the indicated range, it reflects the whole of my analyses. As shown on pages 1 through 4 of Document No. 2, 11.50 percent is at the 36th and 45th percentiles of all my indicated model results in my direct and updated analyses and the 56th and the 50th percentiles of those results excluding the PRPM, respectively. As such, a recommendation above the midpoint is reasonable.

Q. Likewise, Mr. Walters states that you double count Tampa Electric's business risks in your recommended ROE by recommending an ROE above the midpoint of your analyses.[3] Do you agree?

A. No, I do not. Mr. Walters inferred that me recommending an ROE over the midpoint of my range was based on various business risks.[4] Mr. Walters is mistaken. As I stated

in my direct testimony:

Applying the 0.10 percent flotation cost adjustment and the negative 0.08 percent credit risk adjustment to the indicated range of common equity cost rates between 9.89 percent and 12.48 percent results in a company-specific range of common equity rates between 9.90 percent and 12.49 percent. Applying the same adjustments to the 9.89 percent to 12.89 percent range excluding the PRPM from the market risk premium produces a range of 9.90 percent to 12.42 percent. In consideration of these indicated ranges in addition to the company's relatively small service area, weather risk, high customer growth, and its substantial capital expenditure program, I recommend an ROE of 11.50 percent for Tampa Electric in this proceeding.[5]

In the statement above, I considered the ranges of my model results as well as the various business risks confronting Tampa Electric in making my recommendation. As noted above, and as illustrated in Document No. 2, the majority of my model results exceeded the midpoint of my analysis. Because of this, I selected a recommended ROE above the midpoint of my recommended range.

IV. RELEVANCE OF HISTORICAL AUTHORIZED RETURNS

Q. Your recommended ROE of 11.50 percent is above the average ROE approved for electric utilities over the past several years. Are historical ROEs a good measure of prospective ROEs?

A. No, they are not.

Q. Please summarize the Opposing ROE Witnesses' review of authorized ROEs.

A. Dr. Woolridge observes historical authorized ROEs since 2000, noting that authorized ROEs tend to move in the same direction as interest rates, albeit at a slower pace.[6] Dr. Woolridge also observes recent authorized ROEs as approved by the Commission.[7]

Dr. Woolridge uses these observations in conjunction with a working paper by Werner and Jarvis to justify his recommended ROE, which is far below recent average authorized ROEs in Florida.

Mr. Walters observes that authorized ROEs generally declined over the past ten years and that authorized equity ratios were generally in the 50.00 percent to 52.00

percent range.[8] Mr. Walters then states that despite lower authorized ROEs, utilities have maintained steady credit ratings.[9]

Like Dr. Woolridge, Mr. Chriss compares my recommended ROE with ROEs recently authorized in Florida and nationwide,[10] while Messrs. Pollock and Rábago compare my recommended ROE to various national averages over varying time periods.[11]

Q. Please discuss the applicability of historically authorized ROEs for cost of capital purposes.

A. While authorized ROEs may be reasonable benchmarks of acceptable ROEs, they do not reflect the current cost of common equity. The reason why historical authorized returns do not reflect the investor-required return is because authorized ROEs are a lagging indicator of investor-required returns, i.e., authorized ROEs are based on market data presented in an evidentiary record, which spans a period before the decision, sometimes lasting over a year in some cases. Simply put, historical authorized returns do not completely reflect as to the investor-required return because the economic conditions in the past are not representative of economic conditions

now. Because of this, the Opposing ROE Witnesses' simple comparisons of my recommended ROE to previously authorized ROEs are of little value.

A useful way to use historical authorized ROEs for cost of capital purposes would be to determine whether a relationship between authorized ROEs (or equity risk premiums) and interest rates exists so one can determine an expectational ROE or equity risk premium given an interest rate. Dr. Woolridge notes that in the period he studied, authorized ROEs did not move in lock-step with interest rates,[12] which indicates an inverse relationship between equity risk premiums and interest rates (i.e., as interest rates move, equity risk premiums move in the opposite direction, but not to the extent of the interest rate move). This inverse relationship is confirmed in the work of Harris and Marston (2001) and Brigham, Dilip, Shome, and Vinson (1985), as discussed in my direct testimony.[13]

As shown on page 33 of Document No. 1, using historical authorized ROEs and interest data in regression analyses produces statistically significant inverse relationships between interest rates and equity risk premiums, which can be used to determine expectational investor-required

returns. Given an expectational A2-rated Public Utility bond yield of 5.65 percent, an indicated equity risk premium of 4.83 percent is calculated using electric historical ROE data. Adding the expectational A2-rated public utility bond yield to that equity risk premium results in an indicated ROE of 10.48 percent.

Q. Please comment on Dr. Woolridge's reference to a recent article titled "Rate of Return Revisited" in support of his recommended ROE that he admits is "below other authorized ROEs".[14]

A. The paper referenced by Dr. Woolridge is a working paper written by academics at the University of California, Berkeley campus. As it is a working paper, I understand that it has not been peer reviewed nor published in any academic journals. Upon review of the CVs of the two authors, I did not observe any qualifications of either author in the areas of cost of capital or utility regulation. On that basis alone, I urge the Commission to afford the paper zero weight in this proceeding.

Dr. Woolridge notes that one of the key questions the paper seeks to address was "to what extent are utilities being allowed to earn excess returns on equity by their

regulators"?[15] Despite attempting to answer this question, the only measure of ROE considered by the paper was authorized ROE. The authors do not try to distinguish between the ROE authorized by regulators and the ROEs earned by utilities, instead basing the premise of their paper on the notion that every utility earns exactly their authorized ROE, which is not the case.

Dr. Woolridge notes the paper states that authorized ROEs have been "0.50% - 5.50%" above the cost of equity estimates selected (ROE spreads to Corporate bonds, ROE spreads to US Treasurys, CAPM low/high results, and ROEs authorized by the Office of Gas and Electricity Markets ("Ofgem") in the U.K.).[16] While I appreciate that the authors attempted to compare past ROEs to multiple measures of the cost of equity, only the CAPM is an actual cost of equity model used and recognized by regulatory commissions. As discussed in my Direct Testimony,[17] the use of multiple models adds reliability to the estimated cost of equity. Looking specifically at the inputs to the CAPM models used, the authors provided little to no support for their low and high Beta coefficients ("beta") of 0.6 and 0.9 or their market risk premiums ("MRP") of 6 percent and 8 percent. Nor, despite recognizing the forward-looking nature of the cost of equity, do the

authors consider projected Treasury rates.

I disagree with the other benchmarks used as cost of equity estimates. By comparing the spread of authorized ROEs to US Treasury bonds and corporate bonds in 1995, the authors acknowledge that an equity risk premium exists, which I support. However, as discussed previously, the equity risk premium is not constant over time, and movements reflect changes in risk of both debt and equity.

Turning to the published authorized electric and gas ROEs by Ofgem, the authors of the paper do not produce any comparison of macroeconomic factors, regulatory environments, or operational risks that may affect utilities operating in the U.S. compared to the U.K. Without a thorough comparison, it is difficult to make a true apples-to-apples comparison of returns between the two countries.

I also note that in the article's Table 2, which supports the claimed "0.50% - 5.50%" ROE gap, the table notes that the "gap percentage figures are a weighted average across utilities, weighted by rate base". As the authors do not provide the same table without weighting by rate base, it

is difficult to understand the extent to which larger utilities skew the data. Lastly, while the 2020 values in the table may approximate the 0.50 percent - 5.50 percent range, the long-term average (i.e., 1985-2020) variance range approximates -1.25 percent to 3.30 percent, with the 3.30 percent value being based on the "low" CAPM results. This variance is close to the long-term standard deviation of approved ROEs of 2.40 percent (Electric) and 2.25 percent (Natural Gas) as presented in the paper's Table 1. Because this paper is not peer reviewed (i.e., has not passed academic scrutiny) and due to the shortcomings of their study discussed above, the Commission should disregard this study and its purported findings.

Q. Mr. Walters states that utility companies have been able to maintain their credit quality despite declining authorized ROEs.[18] Do you agree?

A. No, I do not. Although Mr. Walters' statements regarding a supportive credit environment for utilities sounds reasonable, a closer look reveals that not to be the case. For example, in January of 2024, S&P noted:

Credit quality for North American investor-owned utilities has weakened over the last four years, with

downgrades outpacing upgrades by more than three times. We expect downgrades to again surpass upgrades in 2024 for the fifth consecutive year. In the decade prior to 2020, upgrades generally outpaced downgrades in the industry.[19]

Mr. Walters' Table CCW-3 proves this to be reality. Since 2020, there is significant downward movement in industry credit ratings. As shown in Mr. Walters Table CCW-3, the number of utilities rated A- or higher has decreased, while the number of BBB and BBB+ rated utilities has increased. That shift toward lower credit ratings indicates a deteriorating credit environment for the utility industry, and consequently increases overall investment risk.

Q. Please summarize this section.

A. The Opposing ROE Witnesses' simple comparisons of my recommended ROE and historically authorized ROEs are of little value because historical ROEs do not reflect current and expected capital market conditions. The only useful data that can be discerned by historically allowed ROEs would be the relationship between those ROEs and prevailing interest rates. Dr. Woolridge's support for

his recommendation is not peer-reviewed, and the shortcomings of the study should lead the Commission disregard it in its entirety. Finally, Mr. Walters' claim that lower ROEs authorized since 2020 have not affected utilities' credit quality is disproven by his own data (specifically Table CCW-3). For all of these reasons, the Commission should not rely on historically authorized ROEs in setting the ROE for Tampa Electric in this proceeding and instead focus on the market analyses put forth by each expert in their respective testimonies.

V. RESPONSE TO OPC WITNESS WOOLRIDGE

Q. Please briefly summarize Dr. Woolridge's analyses and recommendations.

A. Dr. Woolridge recommends the acceptance of Tampa Electric's proposed capital structure, which consists of 41.57 percent long-term debt at an embedded debt cost rate of 4.53 percent short-term debt at an embedded cost rate of 3.90 percent, and 54.00 percent common equity at his recommended ROE of 9.50 percent Regarding his ROE recommendation, Dr. Woolridge's models indicate Tampa Electric's ROE is within a range of 8.85 percent to 10.00 percent, and provides a specific recommendation of 9.50 percent, which is based primarily on the results of his

constant growth DCF model.[20]

Q. What are the specific areas in which you disagree with Dr. Woolridge's analyses and recommendations as they relate to Tampa Electric's ROE?

A. There are several areas in which I disagree with Dr. Woolridge, including: (1) his observations surrounding current capital market conditions; (2) his review of authorized ROEs; (3) his contention that Tampa Electric's parent company is engaging in double leverage; (4) his application of the DCF model; and (5) his application of the CAPM. I have already discussed the inapplicability of historical authorized ROEs in the context of this proceeding and will not repeat that discussion again here.

Capital Market Observations

Q. Please summarize Dr. Woolridge's testimony in regard to the capital market environment.

A. Dr. Woolridge reviews recent trends in Treasury yields, capital raised by public utilities, and measures of inflation.[21] Based on his review, Dr. Woolridge concludes that "the rebounding economy has put pressure on prices," which "has been further exacerbated by the post-COVID

supply chain issues and the higher energy prices brought on by the Russia-Ukraine conflict."[22] Dr. Woolridge also concludes that utilities were able to take advantage of low interest rates in 2020 and 2021.[23] However, inflation is expected to remain high in the short-term while longer term expectations are approximately 2.35 percent.[24] Finally, Dr. Woolridge states "with an inverted yield curve, the prospect of a recession is likely, which would lead to lower interest rates."[25]

Q. Do you agree with Dr. Woolridge's opinion of capital market conditions?

A. In part, however, I do not agree with the conclusion that these factors do not suggest an increased cost of capital for utilities.

Q. Dr. Woolridge states that since the yield curve is inverted, investors expect a recession.[26] Do recessions increase risk, and therefore, investor-required return?

A. Yes. Because there is inherently more risk (i.e., chance of loss) during recessions, as evidenced by negative market returns and negative Gross Domestic Product ("GDP") growth, and because investors require a return

commensurate with the level of risk, the ROE required by investors in Tampa Electric increases in a recession; it does not decrease. Dr. Woolridge's contention that recessions reduce equity risk is counterintuitive.

Q. What is your conclusion as it relates to the capital market environment?

A. Both interest rates and inflation are currently at multi-year highs. While both have moderated within the past year, their effects continue to have an upward impact on capital costs, both directly (interest rates) and indirectly (inflation). Dr. Woolridge does not provide evidence to the contrary.

Capital Structure

Q. Dr. Woolridge suggests that Emera Incorporated ("Emera") is using debt to drive returns at the expense of its operating subsidiaries such as Tampa Electric.[27] What is your response?

A. Dr. Woolridge appears to suggest that Emera is engaging in double leverage, to the detriment of Tampa Electric's customers.[28] My primary concern is that position runs counter to the widely accepted "stand-alone" regulatory

principle, which treats each utility subsidiary as its own company. Under the stand-alone approach, the cost of capital is determined using the subsidiary's capital structure and cost of debt and equity. The cost of common equity is generally estimated by reference to a proxy group of firms of comparable risk.

Consistent with the stand-alone principle as discussed previously, the ownership structure does not affect the operating utility's capital structure or cost of capital. Parent entities, like other investors, have capital constraints and must consider the attractiveness of the expected risk-adjusted return of each investment alternative as part of their capital budgeting process. This opportunity cost concept applies regardless of the source of the funding. When funding is provided by a parent entity, the return on that financing must still be sufficient to provide an incentive to the parent entity to allocate equity capital to the subsidiary or business unit rather than other internal or external investment opportunities. That is, the regulated subsidiary must compete for capital with its affiliates and with other similarly situated utility companies.

From an external investor's perspective, the combined

company must provide a return reflecting the risks of the company's constituent parts. Investors therefore value combined entities on a sum-of-the-parts basis, expecting each operating segment to provide its appropriate risk-adjusted return. That practical financial principle is consistent with the regulatory principle of treating utilities as stand-alone entities. From both perspectives, it is the utility's operating risk that defines the capital structure and cost of capital, not investors' sources of funds.

Contrary to those basic principles, Dr. Woolridge's double leverage argument assumes the required return depends on the source of financing, not on the risks of the underlying utility operations. The position that a company would have different cost rates depending on how its investors fund their equity investments violates the widely acknowledged economic "law of one price," which states that in an efficient market identical assets would have the same value. In other words, two utilities, identical in all respects but for their form of ownership, should have the same common equity cost rates.

Moreover, if the common equity of a subsidiary were held by both the parent and an external investor, the equity

held by the parent would have one required return, and the equity held by outside investors would have another. To the extent the required returns differ, so would the value of the equity. But in an efficient market, identical assets must have the same price (value). If not, the difference quickly would be arbitraged away. As Morin noted in New Regulatory Finance:

Carrying the double leverage standard to its logical conclusion leads to even more unreasonable prescriptions. If the common shares of the subsidiary were held by both the parent and by individual investors, the equity contributed by the parent would have one cost under the double leverage computation while the equity contributed by the public would have another.[29]

The double leverage argument also requires every affiliate within the corporate family to have the same cost of capital, regardless of differences in risk. Emera Incorporated reports five operating segments: Florida Electric Utility, Canadian Electric Utilities, Gas Utilities, Other Electric Utilities and Other.[30] Because they are separately reported, we reasonably can assume those segments face different risks. And because they face different risks, we reasonably may assume they require different returns. Morin further noted:

Just as individual investors require different returns from different assets in managing their personal affairs, why should regulation cause parent companies making investment decisions on behalf of their shareholders to act differently? A parent company normally invests money in many operating companies of varying sizes and varying risks. These operating subsidiaries pay different rates for the use of investor capital, such as long-term debt capital, because investors recognize the differences in capital structure, risk, and prospects between the subsidiaries. Yet, the double leverage calculation would assign the same return to each activity, based on the parent's cost of capital. Investors recognize that different subsidiaries are exposed to different risks, as evidenced by the different bond ratings and cost rates of operating subsidiaries. The same argument carries over to common equity. If the cost rate for debt is different because the risk is different, the cost rate for common equity is also different, and the double leverage adjustment should not obscure this fact.[31]

Longstanding academic literature has thoroughly discussed the flaws associated with the double leverage approach. For example:

1. Pettway and Jordan (1983), and Beranek and Miles

(1988) point out the flaws in the double leverage argument, particularly the excess return argument, and also demonstrate that the "stand-alone" method is the superior approach.[32]

2. Rozeff (1983) discusses the ratepayer cross-subsidies of one subsidiary by another when employing double leverage.[33]

3. Lerner (1973) concludes that the returns granted to equity investors must be based on the risks to which the investors' capital is exposed and not the investors' source of funds.[34]

Basic finance texts reach the same conclusions. In Principles of Corporate Finance, 8th edition, Brealey, Myers, and Allen state:

In principle, each project should be evaluated at its own opportunity cost of capital; the true cost of capital depends on the use to which the capital is put. If we wish to estimate the cost of capital for a particular project, it is project risk that counts.[35]

Likewise, in Modern Corporate Finance, 1st edition, Shapiro states:

Each project has its own required return, reflecting three basic elements: (1) the real or inflation-adjusted risk-

free interest rate; (2) an inflation premium approximately equal to the amount of expected inflation; and (3) a premium for risk. The first two cost elements are shared by all projects and reflect the time value of money, whereas the third component varies according to the risks borne by investors in the different projects. For a project to be acceptable to the firm's shareholders, its return must be sufficient to compensate them for all three cost components. This minimum or required return is the project's cost of capital and is sometimes referred to as a hurdle rate.[36]

The preceding paragraph bears a crucial message: the cost of capital for a project depends on the riskiness of the assets being financed, not on the identity of the firm undertaking the project. Simply put, the notion of double leverage runs counter to both financial and regulatory principles.

Lastly, double leverage arguments have been rejected by several regulatory commissions, including the Maryland Public Service Commission:

We reject People's Counsel's proposed capital structure [reflecting a double leverage adjustment] because it suffers from numerous flaws. First, it assumes that the

rate of return depends on the source of capital rather than the risks faced by the capital.[37]

In 2016, the Federal Energy Regulatory Commission ("FERC") reiterated its previous position on "double leveraging,"[38] stating that "the motivations of a parent company are irrelevant"[39] so long as the operating company passes the FERC's three-part test: (1) it issues its own debt without guarantees; (2) it has its own bond rating; and (3) it has a capital structure within the range of capital structures approved by the commission.[40] Under FERC guidance, Tampa Electric's capital structure is reasonable.

The Washington Utilities and Transportation Commission has cited to FERC's position on the use of double leverage in support of its decision in Docket No. UE 050684:

The FERC does not embrace the concept of double leverage. For purposes of calculating rate of return for wholly owned subsidiaries, FERC uses the stand-alone capital structure and return on equity of the subsidiary so long as the subsidiary issues its own debt, maintains its own credit ratings and meets other standards related to equity ratio. The courts have upheld this policy. *See Missouri Pub. Serv. Comm'n v. Federal Energy Reg Comm'n, 215 F.3d*

1, 342 U. S. App. DC. 1 (D.C. Cir. June 27, 2000).[41]

In view of all of the above, the Commission should ignore Dr. Woolridge's double leverage arguments.

Application of the DCF Model

Q. Please summarize Dr. Woolridge's application of the constant growth DCF model.

A. For the dividend yield, Dr. Woolridge uses a current annual dividend and then divides that by the 30-, 90-, and 180-trading day average stock prices to derive a range of dividend yields between 4.00 percent to 4.20 percent, and 4.20 percent to 4.40 percent using his electric proxy group and my electric proxy group, respectively.[42] Dr. Woolridge reviewed a number of growth rates, including historical and projected dividends per share ("DPS"), book value per share ("BVPS"), and earnings per share ("EPS") growth rates as reported by *Value Line Investment Survey ("Value Line")*; analysts' consensus EPS growth rate projections from Yahoo! Finance, Zacks, and S&P Capital IQ; and an estimate of "sustainable growth" derived from data provided by *Value Line*.[43] Dr. Woolridge states that in arriving at his DCF estimates of 9.70 percent and 10.00 percent for his electric proxy group and my electric proxy group, respectively, he gave more

weight to projected EPS growth rates[44] despite stating that analysts' projected growth rates in EPS are biased.[45]

Q. Do you agree with Dr. Woolridge's position that analysts' earnings growth projections are consistently biased?

A. No, I do not. Dr. Woolridge argues analysts' earnings growth estimates are "overly optimistic and upwardly biased"[46] and asserts that "the DCF growth rate needs to be adjusted downward from the analysts' projected EPS growth rate"[47] as a result of that bias. Notably, despite his view that analysts' projected growth rates are biased, it was by "giving more weight to the projected growth rates of Wall Street analysts and *Value Line*" that Dr. Woolridge arrived at his assumed growth rates.[48]

As a practical matter, the October 2003 Global Research Analyst Settlement required financial institutions to insulate investment banking from analysis, prohibited analysts from participating in "road shows," and required the settling financial institutions to fund independent third-party research.[49] I have reviewed the Letters of Acceptance, Waiver, and Consent signed by financial institutions that were party to the Global Settlement, and found no reference to misconduct by analysts following

the utility sector.

Moreover, pursuant to Regulation AC, which became effective in April 2003, analysts must certify that " . . . the views expressed in the report accurately reflect his or her personal views, and disclose whether or not the analyst received compensation or other payments in connection with his or her specific recommendations or views."[50] I further understand industry practice is to avoid conflicts of interest by ensuring that compensation is not directly or indirectly linked to the opinions contained in those reports. Dr. Woolridge has not explained why any of the analysts covering our respective proxy companies, or the S&P 500 companies used in my market DCF, would bias their projections despite those certification requirements. Considering that The Regulation Fair Disclosure and Global Analysts Research Settlements were more than 20 years ago, investors have been fully aware since then of the steps that have been taken to eliminate and prevent analysts' bias.

In addition, there is no empirical evidence that investors would disregard analysts' estimates of growth in EPS. *Do Analyst Conflicts Matter? Evidence from Stock Recommendations* examines whether conflicts of interest

with investment banking "IB" and brokerage businesses induced sell-side analysts to issue optimistic stock recommendations and whether investors were misled by such biases. They conclude:

Overall, our findings do not support the view that conflicted analysts are able to systematically mislead investors with optimistic stock recommendations.

Agrawal and Anup state:

Overall, our empirical findings suggest that while analysts do respond to IB and brokerage conflicts by inflating their stock recommendations, the market discounts these recommendations after taking analysts' conflicts into account. These findings are reminiscent of the story of the nail soup told by Brealey and Myers (1991), except that here analysts (rather than accountants) are the ones who put the nail in the soup and investors (rather than analysts) are the ones to take it out. Our finding that the market is not fooled by biases stemming from conflicts of interest echoes similar findings in the literature on conflicts of interest in universal banking (for example, Kroszner and Rajan, 1994, 1997; Gompers and Lerner 1999) and on bias in the financial media (for examples, Bhattacharya et al. forthcoming; Reuter and Zitzewitz 2006). Finally, while

we cannot rule out the possibility that some investors may have been naïve, our findings do not support the notion that the marginal investor was systematically misled over the last decade by analysts' recommendations.[51]

Finally, while Easton and Sommers' article, *Effect of Analysts' Optimism on Estimates of the Expected Rate of Return Implied by Earnings Forecasts,* does state that, on average, the difference between the estimate of the expected rate of return based on analysts' earnings forecasts and the estimates based on current earnings realizations is 2.84 percent, they also state that analysts' accuracy[52] and optimism[53] in the implied estimates of the expected rate of return differs with firm size:

…the mean scaled absolute forecast error, a measure of the accuracy of the forecasts, declines monotonically from 0.102 for the decile of smallest firms to 0.012 for the decile of largest firms. Similarly, the median absolute scaled forecast error declines monotonically from 0.042 to 0.006.

Analysts' optimism, measured as the mean (median) scaled forecast error, declines monotonically from -0.075

(-0.023) for the decile of the smallest firms to -0.005 (-0.002) for the decile of the largest firms.[54]

In plain language, as firm size increases, analyst accuracy increases and analyst optimism (i.e., bias) diminishes.

Q. Have you determined the levels of forecast error and bias in analyst-projected EPS growth rates for companies comparable in size to the Utility Proxy Group?

A. Yes, I have. Using market capitalizations as of May 31, 2024, both Dr. Woolridge's electric proxy group and my electric proxy group fall into the eighth decile of market capitalizations, respectively, as shown on Table 3, Panel A of the Easton and Sommers article.[55] Mean and median measures of forecast error (i.e., accuracy) of 0.017 and 0.008, respectively, for the 8th decile, indicates a high level of analyst accuracy. The bias of analyst-projected EPS growth rates for companies comparable in size to the average company in Dr. Woolridge's electric proxy group and my electric proxy groups is -0.009 (mean) and -0.003 (median), indicating a low level of bias in analyst-projected EPS growth rates.

Furthermore, two of my market risk premiums ("MRP") used in my CAPM use projected market returns which are derived by calculating a weighted DCF for the component companies of the S&P 500. The component companies of the S&P also have an average market capitalization that corresponds with the ninth decile as provided by Table 3, Panel A of the Easton and Sommers article.[56] Mean and median forecast errors for analyst-projected EPS growth rates for the average company in the S&P 500 are 0.015 and 0.007, respectively, which are more accurate than even the small forecast errors which coincide with companies in Dr. Woolridge's proxy groups. Likewise, mean and median measures of bias for companies in the S&P 500 are -0.007 and -0.002, respectively.

The analyst-projected EPS growth rates I used to derive my DCF results for my proxy group and my projected return on the market are confirmed to have high accuracy and limited bias.

In view of the foregoing, the use of analysts' forecasts of EPS growth should be used exclusively when estimating the cost rate of common equity capital, whether it be for my Utility Proxy Group or the entire market. Note that notwithstanding Dr. Woolridge's lengthy discussion about

the bias and inaccuracy of security analysts' forecasts of EPS growth, he himself gave "primary weight" to them in arriving at his conclusion of a DCF-derived cost rate.[57]

Q. Is the use of analysts' earnings growth projections in the DCF model supported by financial literature?

A. Yes, it is. Myron Gordon, the "father" of the standard regulatory version of the DCF model widely utilized throughout the United States in rate base/rate of return regulation, recognized the significance of analysts' forecasts of growth in EPS in a speech he gave in March 1990 before the Institute for Quantitative Research and Finance,[58] stating on page 12:

We have seen that earnings and growth estimates by security analysts were found by Malkiel and Cragg to be superior to data obtained from financial statements for the explanation of variation in price among common stocks… estimates by security analysts available from sources such as IBES are far superior to the data available to Malkiel and Cragg.

* * *

Eq (7) is not as elegant as Eq (4), but it has a good deal more intuitive appeal. It says that investors buy earnings, but what they will pay for a dollar of earnings

increases with the extent to which the earnings are reflected in the dividend or in appreciation through growth.

Professor Gordon recognized that the total return is largely affected by the terminal price, which is mostly affected by earnings (hence price-to-earnings ("P/E") multiples).

Studies performed by Cragg and Malkiel[59] demonstrate that analysts' forecasts are superior to historical growth rate extrapolations. While some question the accuracy of analysts' forecasts of EPS growth, the level of accuracy of those analysts' forecasts well after the fact does not really matter. What is important is the forecasts reflect widely held expectations influencing investors at the time they make their pricing decisions, and hence, the market prices they pay.

In addition, Jeremy J. Siegel also supports the use of security analysts' EPS growth forecasts when he states: For the equity holder, the source of future cash flows is the earnings of firms.

* * *

Some people argue that shareholders most value stocks'

cash dividends. But this is not necessarily true.

* * *

Since the price of a stock depends primarily on the present discounted value of all expected future dividends, it appears that dividend policy is crucial to determining the value of the stock. However, this is not generally true.

* * *

Since stock prices are the present value of future dividends, it would seem natural to assume that economic growth would be an important factor influencing future dividends and hence stock prices. However, this is not necessarily so. The determinants of stock prices are earnings and dividends on a *per-share* basis. Although economic growth may influence *aggregate* earnings and dividends favorably, economic growth does not necessarily increase the growth of per-share earnings of dividends. It is EPS that is important to Wall Street because per-share data, not aggregate earnings or dividends, are the basis of investor returns. (italics in original)[60]

Furthermore, over the long run, there can be no growth in DPS without growth in EPS. Earnings expectations have a more significant, but not sole, influence on market prices than dividend expectations. Thus, the use of earnings

growth rates in a DCF analysis provides a better match between investors' market appreciation expectations implicit in market prices and the growth rate component of the DCF. Consequently, earnings expectations have a significant influence on market prices which affect market price appreciation, and hence, the "growth" experienced by investors. This should be evident even to relatively unsophisticated investors just by listening to financial news reports on radio, TV, or reading newspapers. In fact, Morin states:

Because of the dominance of institutional investors and their influence on individual investors, analysts' forecasts of long-run growth rates provide a sound basis for estimating required returns. Financial analysts exert a strong influence on the expectations of many investors who do not possess the resources to make their own forecasts, that is, they are a cause of g. The accuracy of these forecasts in the sense of whether they turn out to be correct is not at issue here, as long as they reflect widely held expectations. As long as the forecasts are typical and/or influential in that they are consistent with current stock price levels, they are relevant. The use of analysts' forecasts in the DCF model is sometimes denounced on the grounds that it is difficult to forecast earnings and dividends for only one year, let

alone for longer time periods. This objection is unfounded, however, because it is present investor expectations that are being priced; it is the consensus forecast that is embedded in price and therefore in required return, and not the future as it will turn out to be.

* * *

Published studies in the academic literature demonstrate that growth forecasts made by security analysts represent an appropriate source of DCF growth rates, are reasonable indicators of investor expectations and are more accurate than forecasts based on historical growth. These studies show that investors rely on analysts' forecasts to a greater extent than on historic data.[61]

However, while EPS is a significant factor influencing market prices, it is by no means the only factor that affects market prices, a fact recognized by Bonbright, who states:

In the first place, commissions cannot forecast, except within wide limits, the effect their rate orders will have on the market prices of the stocks of the companies they regulate. In the second place, *whatever the initial market prices may be, they are sure to change not only with the changing prospects for earnings, but with the*

changing outlook of an inherently volatile stock market. In short, market prices are beyond the control, though not beyond the influence of rate regulation. Moreover, even if a commission did possess the power of control, any attempt to exercise it ... would result in harmful, uneconomic shifts in public utility rate levels (emphasis added).[62]

In addition, studies performed by Cragg and Malkiel demonstrate that analysts' forecasts are superior to historical growth rate extrapolations. They state:

Efficient market hypotheses suggest that valuation should reflect the information available to investors. Insofar as analysts' forecasts are more precise than other types we should therefore expect their differences from other measures to be reflected in the market. It is therefore noteworthy that our regression results do support the hypothesis that analysts' forecasts are needed even when calculated growth rates are available. As we noted when we described the data, security analysts do not use simple mechanical methods to obtain their evaluations of companies. The growth-rate figures we obtained were distilled from careful examination of all aspects of the companies' records, evaluation of contingencies to which they might be subject, and whatever information about

their prospects the analysts could glean from the companies themselves of from other sources. It is therefore notable that the results of their efforts are found to be so much more relevant to the valuation than the various simpler and more "objective" alternatives that we tried.[63]

In addition, Vander Weide and Carleton conclude:

. . . our studies affirm the superiority of analyst's forecasts over simple historical growth extrapolations in the stock price formation process. Indirectly, this finding lends support to the use of valuation models whose input includes expected growth rates.[64]

Additionally, the level of accuracy of those analysts' forecasts does not matter. What matters is that they influence investors and hence the market prices they pay. Moreover, there is no empirical evidence that investors, consistent with the Efficient Market Hypothesis, would discount or disregard analysts' estimates of growth in EPS. Since investors are aware of the accuracy of such projections, as well as the literature supporting the superiority of such projections, security analysts' earnings growth projections should be used exclusively in a cost of common equity analysis.

In addition to the empirical and academic support discussed previously in this rebuttal testimony regarding the superiority of analysts' EPS growth forecasts, there should be no concern about the use of analysts' forecasts in 2023. Burton G. Malkiel, the Chemical Bank Chairman's Professor of Economics at Princeton University, is the author of the widely read national bestseller book on investing entitled, A Random Walk Down Wall Street (2011). In testimony before the Public Service Commission of South Carolina ("PSC SC"), in November 2002, Malkiel affirmed his belief in the superiority of analysts' earnings forecasts when he testified:

With all the publicity given to tainted analysts' forecasts and investigations instituted by the New York Attorney General, the National Association of Securities Dealers, and the Securities & Exchange Commission, I believe the upward bias that existed in the late 1990s has indeed diminished. In summary, I believe that current analysts' forecasts are more reliable than they were during the late 1990s. *Therefore, analysts' forecasts remain the proper tool to use in performing a Gordon Model DCF analysis.* (Rebuttal testimony, South Carolina Electric and Gas Co., pp. 16-17, Docket No. 2002-223-E) (italics added)

Q. Are dividend and book value growth rates appropriate inputs to the DCF model?

A. No, they are not. First, earnings growth enables both dividend and book value growth. Under the strict assumptions of the constant growth DCF model, earnings, dividends, book value, and stock prices all grow at the same, constant rate in perpetuity.

Simply, earnings are the fundamental driver of both book value and dividend growth. As noted earlier, book value increases with the amount of earnings not distributed as dividends (that is, retained earnings), and the price at which new equity is issued is a function of the EPS and the then-current P/E ratio. Similarly, the ability to pay dividends depends fundamentally on expected earnings.[65] Because dividend policy contemplates additional factors, including the disproportionately negative effect on prices resulting from dividend cuts, as opposed to dividend increases, in the short-run dividend growth may be disconnected from earnings growth.[66] In the long run, however, dividends cannot be increased without earnings growth.

Because investors often assess stock values on the basis

of P/E ratios, it is important to consider whether the growth rates used in the DCF model are related to those valuations. Therefore, relying on DPS and BVPS as Dr. Woolridge has done is wholly inappropriate.

Q. In reviewing the financial literature, did you discover any publications that supported the use of projected DPS or projected BVPS growth rates for use in a DCF model?

A. No, I did not.

Q. Likewise, are you aware of any sources of data which provide projected DPS or BVPS growth rates to investors?

A. *Value Line* is the only source of which I am aware that publishes projected DPS and BVPS growth rates. If investors indeed valued projected DPS and BVPS growth rates there would be a market for that data. As they are not relied on by investors to determine their required returns on investments, there is no such market. Conversely, projected EPS growth rates are widely available to investors through many sources.[67]

Q. Are historical growth rates appropriate measures of expected growth for the DCF model?

A. No, they are not. As to the applicability of historical growth rates, Dr. Woolridge himself points out that "to best estimate the cost of common-equity capital using the conventional DCF model, one must look to long-term growth rate expectations",[68] and I agree. The growth component of the constant growth DCF model is a forward-looking measure. To the extent historical growth influences investors' expectations of future growth, it already will be reflected in analysts' consensus earnings estimates. Professors Carleton and Vander Weide found "overwhelming evidence that consensus analysts' forecast of future growth is superior to historically oriented growth measures in predicting the firm's stock price."[69] Consequently, historical growth rates are not appropriate for the constant growth DCF model.

Q. Do you agree with Dr. Woolridge's use of a retention growth rate?

A. No, I do not. Morin discusses the sustainable growth model and shows that it relies on knowledge of several factors, including:

- "b": the fraction of earnings per share retained;
- "r": the rate of return on equity (ROE);
- "s": the growth rate in common equity due to the

sale of stock; and

- "v": the fraction of a stock sale that increases existing book value.

Specifically, Morin states the following:

There are three problems in the practical application of the sustainable growth method:

(1) It may be even more difficult to estimate what b, r, s and v investors have in mind than it is to estimate what g they envisage. It would appear far more economical and expeditious to use available growth forecasts and obtain g directly instead of relying on four individual forecasts of the determinants of such growth. *It seems only logical that the measurement and forecasting errors inherent in using four different variables to predict growth far exceed the forecasting error inherent in a direct forecast of growth itself.*

(2) *There is an element of circularity in estimating g by a forecast of b and ROE for the utility being regulated, since ROE is determined in large part by regulation. To estimate what ROE resides in the minds of investors is equivalent to estimating the market's assessment of the outcome of regulatory hearings.* Expected ROE is exactly what regulatory

commissions set in determining an allowed rate of return. In other words, the method requires an estimate of ROE before it can even be implemented. *Common sense would dictate the inconsistency of a return on equity recommendation that is different than the expected ROE that the method assumes the utility will earn forever.*

For example, using an expected return on equity of 11% to determine the growth rate and using that same growth rate to recommend a return on equity of 9% is inconsistent. *It is not reasonable to assume that this regulated utility company is expected to earn 11% forever, but estimate a 9% return on equity. The only way this utility can earn 11% is that rates be set by the regulator so that the utility will in fact earn 11%....*

(3) The empirical finance literature discussed earlier demonstrates that the sustainable growth method of determining growth is not as significantly correlated to measures of value, such as stock price and price/earnings ratios, as other historical growth measures or analysts' growth forecasts. *Other proxies for growth, such as historical growth rates and analysts' growth forecasts, outperform retention growth estimates.* (emphasis added)[70]

The circular nature of the sustainable growth DCF is illustrated in the following steps:

1. The sustainable growth rate relies on an expected ROE on book common equity;
2. That expected ROE on book common equity is then used in a DCF analysis to establish an ROE cost rate related to the market value of the common stock; and
3. That market-related ROE, if authorized as the allowed ROE in a regulatory proceeding, becomes the expected ROE on book common equity.

Put simply, the estimated ROEs Dr. Woolridge used to derive his sustainable growth rate become the regulatory outcome of this proceeding, even as those ROEs are themselves based on regulatory outcomes.

Q. Do you have any other concerns with the use of the sustainable growth rate as a measure of long-term growth?

A. Yes. The sustainable growth rate assumes increasing retention ratios necessarily are associated with increasing future growth. The underlying premise is that future earnings will increase as the retention ratio increases. That is, if future growth is modeled as "b x r" (where "b" is the retention ratio and "r" is the earned

return on book equity), growth will increase as "b" increases. There are several reasons, however, why that may not be the case. Consequently, it is appropriate to determine whether the data supports the assumption that higher earnings retention ratios necessarily are associated with higher future earnings growth rates.

Q. Does independent research support the finding that future earnings and the retention ratio are not positively related?

A. Yes. In 2006, for example, two articles in Financial Analysts Journal addressed the theory that high dividend payouts (i.e., low retention ratios) are associated with low future earnings growth.[71] Both articles cite a 2003 study by Arnott and Asness,[72] who found that over the course of 130 years of data, future earnings growth is associated with high, rather than low, payout ratios.[73] In essence, the findings of all three studies found that there is a negative, not a positive, relationship between the two.

Q. Did you perform any analyses to test that assumption?

A. Yes, I did. Using EPS and DPS data from *Value Line*, I

calculated the historical dividend payout ratio, retention ratio, and subsequent five-year average earnings growth rate for the companies included in the *Value Line* electric, natural gas, and water utility industries. I then performed a regression analysis in which the dependent variable was the five-year earnings growth rate, and the explanatory variable was the earnings retention ratio. The purpose of that analysis was to determine whether the data empirically supports the assumption that higher retention ratios necessarily produce higher earnings growth rates.

Q. What did that analysis reveal?

A. As shown on Document No. 3, there was a statistically significant negative relationship between the five-year average earnings growth rate and the earnings retention ratio. That is, based on *Value Line* data, earnings growth actually decreased as the retention ratio increased. Those findings clearly call into question Dr. Woolridge's use of the sustainable growth rate as a proxy for the long-term growth rate in his analysis.

Q. Do those results make practical sense?

A. Yes, they do. As a practical matter, dividend-paying companies (such as utilities) are reluctant to reduce dividends, given the often-disproportionate stock price reaction. Consequently, a higher than expected dividend increase may signal management's confidence in higher future earnings and cash flow. That is, a near-term reduction in the retention ratio supporting a higher dividend increase may provide information or "signaling" content regarding future growth prospects.[74] In view of the foregoing, Dr. Woolridge's use of a sustainable growth rate DCF analysis is an exercise in circularity which ignores the basic principle of rate base/rate of return regulation.

Q. Have you performed any analyses to determine which measures of growth are statistically related to the proxy companies' stock valuation levels?

A. Yes, I have. My analysis is based on the methodological approach used by Carleton and Vander Weide, who compared the predictive capability of historical growth estimates and analysts' forecasts on the valuation levels of 65 utility companies.[75] I structured the analysis to understand whether historical, or projected, earnings or dividend growth rates best explain utility stock

valuations. In particular, my analysis examined the statistical relationship between the P/E ratios of electric and natural gas utilities as classified by *Value Line*, and the historical and projected EPS, DPS, and BVPS growth rates in addition to B*R sustainable growth rates (calculated as the retention ratio multiplied by the projected ROE) as reported by *Value Line*. To determine which, if any, of those growth rates are statistically related to utility stock valuations, I performed a series of regression analyses in which the projected growth rates were explanatory variables and the P/E ratio was the dependent variable. The results of those analyses are presented in Document No. 4.

In that analysis, I performed 10 separate regressions with the P/E as the dependent variable, and historical and projected EPS, DPS, and BVPS, as well as a measure of sustainable growth, as the independent variables. I then reviewed the T- and F-Statistics to determine whether the variables and equations were statistically significant.[76]

Q. What did those analyses reveal?

A. As shown in Document No. 4, the only growth rate that was statistically significant and positively related to the

P/E ratio was the projected EPS growth rate. Because projected EPS growth is the only growth rate that is both statistically and positively related to utility valuation, projected earnings is the proper measure of growth in the constant growth DCF model.

Q. What is your conclusion of the appropriate growth rate for use in the DCF model?

A. In view of the above, I recommend the Commission rely solely on projected EPS growth rates when determining the indicated ROE for Tampa Electric using the DCF model.

Q. Do you have any corrections to Dr. Woolridge's DCF analysis?

A. Yes, I do. In his DCF analysis Dr. Woolridge used an approximate average dividend yield based on the 30-, 90-, and 180-day averages and projected growth rates of 5.50 percent and 5.60 percent based on what he believes to be an acceptable range of 5.00 percent to 5.95 percent and 5.10 percent to 6.10 percent for his electric proxy group and my electric proxy group, respectively.[77] Focusing solely on the average estimate of each of Dr. Woolridge's inputs ignores the range of individual DCF

results. That is, Dr. Woolridge's approach does not consider the variability in the DCF results of the proxy companies. A more appropriate approach, which I have used in my DCF analysis, is to calculate the individual proxy company DCF results. Doing so shows that the individual proxy company DCF results are not necessarily clustered around a central point. Relying on the average of each input, as Dr. Woolridge does, obscures that finding. As such, I calculated the company-specific DCF results for Dr. Woolridge's and my proxy groups based on the 30-, 90-, and 180-day dividend yields and analysts' growth rates. The corrected DCF results for Dr. Woolridge's electric and my electric proxy group, range from 10.34 percent to 10.49 percent and 10.59 percent to 10.72 percent respectively (see Document No. 5).

Capital Asset Pricing Model

Q. Please describe Dr. Woolridge's CAPM analysis and results.

A. Dr. Woolridge combines a risk-free rate of 4.65 percent and an MRP of 5.25 percent to the average *Value Line* and S&P Capital IQ beta of his proxy electric group (0.80) and my electric proxy group (0.80).[78] In estimating his MRP of 5.25 percent, Dr. Woolridge reviews a series of

studies that calculate the MRP using different methodologies; from which he places significant weight on the Kroll MRP (5.50 percent), KPMG MRP (5.00 percent), JP Morgan MRP (4.40 percent), Damodaran MRP (4.15 percent), and the Fernandez (5.50 percent) and Duke CFO (4.90 percent) surveys.[79] His indicated ROE using these inputs is 8.85 percent for his electric proxy group and my electric proxy group.[80] Dr. Woolridge gives his CAPM results less weight in the determination of his ROE recommendation.[81]

Q. Before you discuss Dr. Woolridge's application of the CAPM, in your experience, does Dr. Woolridge typically place any weight on the results of his CAPM analysis in his recommended ROE?

A. No.

Q. Likewise, in your experience, does Dr. Woolridge typically use beta coefficients calculated using monthly returns?

A. Not until recently. While Dr. Woolridge discusses the "issues" with *Value Line* betas on pages 62 through 64 of his direct testimony, those "issues" have been present

since *Value Line* published betas, and those "issues" never prevented Dr. Woolridge from exclusively relying on them in the past, including the post-pandemic period.[82]

Q. How do these two inconsistencies affect Dr. Woolridge's recommendation?

A. Dr. Woolridge's consideration of his CAPM results and use of monthly betas serve to lower his indicated ROE results and his recommendation. While I do believe in the use of multiple models, Dr. Woolridge's application of the CAPM is fatally flawed, as I will discuss below, and as such, should not be relied on.

Q. Please discuss your concerns with Dr. Woolridge's application of the CAPM.

A. My main concerns are (1) his MRP based on academic and professional studies; and (2) his failure to employ the empirical CAPM ("ECAPM"). In addition to the above concerns, I generally disagree with Dr. Woolridge's use of current interest rates and use of betas calculated using monthly returns, but those differences are not material at this time.

Q. Please summarize Dr. Woolridge's recommended MRP for use in his application of the CAPM in his direct testimony.

A. In his direct testimony, Dr. Woolridge reviews a number of MRPs for his analysis, and places the most weight on the Kroll recommended MRP (5.50 percent), KPMG MRP (5.00 percent), JP Morgan (4.40 percent), and Damodaran (4.15 percent, Fernandez Survey (5.50 percent) and the Duke-CFO Survey.[83] As discussed below, I do not believe any of the above are valid measures of the MRP and therefore they should be rejected by the Commission.

Q. What is your position on the 5.50 percent MRP quoted by Kroll?

A. The determination of the MRP as calculated by Kroll is not transparent, especially in view of the historical MRP and supply side MRP presented in Kroll's 2023 SBBI® Yearbook: Stocks, Bonds, Bills, and Inflation ("SBBI-2023"), which is already well known by investors. Because of the transparency of the historical data and how to gather and use the components of the supply side model, both the historical MRP (using the long-term arithmetic mean return on large company stocks less the long-term arithmetic income returns on long-term Government bonds)

and the supply side model are superior measures of the MRP, when compared to Kroll's simplistic and opaque MRP forecast.

Q. Why is the Kroll MRP more opaque than other measures of the MRP?

A. The MRP is calculated by subtracting a risk-free rate from the investor-required return on the market. Typically, the return on the market uses observable market measures (e.g., historical average returns), but the Kroll MRP does not define how they calculate their expected return on the market. Similarly, the risk-free rate is typically also based on market measures (e.g., historical interest rates, forecasted interest rates), but Kroll does not explain how they derive their 3.50 percent normalized risk-free rate. Because Kroll does not reveal how they derive their estimates, we do not know if they are indeed based on market measures.

Q. Did you conduct a study to determine the forecast accuracy of the Kroll recommended market return relative to the SBBI – 2023 historical market return?

A. Yes, I did. I have calculated the forecast bias[84] of the

long-term historical average return and the implied market returns from Kroll from 2008-2023 to determine the most accurate measure of the following years' market return.[85] For example, the long-term average market return from 1926-2008 was used to determine the forecasted return for 2009. The result of this analysis is shown in Document No. 6.

As shown in Document No. 6, the long-term arithmetic mean return is the more accurate predictor of the next year's return, as compared to the Kroll projected market return; while both measures understate the actual return (both forecast bias values are under 100.00 percent), the Kroll forecasted market return significantly and consistently understates the actual return. This result is consistent with Campbell, who states that when returns are serially uncorrelated, the arithmetic average represents the best forecast of future returns in any randomly selected future year.[86]

Q. What concerns do you have regarding the KPMG MRP?

A. Similar to the Kroll MRP, the KPMG MRP calculation is not transparent. Also, KPMG Corporate Finance & Valuations Netherland's Equity Market Risk Premium site clearly

states limiting conditions to its calculation:

Note: Other KPMG country practices may have a deviating view on the MRP, as it is dependent on other parameters of the cost of capital determination, which may differ from country to country. In addition, commonly applied local market practice or regulatory requirements may also lead to different conclusions on individual parameters such as the MRP.[87]

A further review of KMPG's report reveals that the MRP calculated by KPMG is a global MRP, not a U.S.-specific MRP. As noted in the summary of the report, KPMG gives more weight to "the S&P 500, FTSE and STOXX 600".[88] Dr. Woolridge has not provided any support for why a global MRP would be considered by U.S. investors. As a result of the lack of clarity of the MRP coupled with its limiting conditions and inapplicability to the U.S. market, the KPMG MRP should be rejected by the Commission.

Q. What are your concerns with the JP Morgan MRP?

A. I have three concerns with the JP Morgan MRP: (1) the "long-term" capital market assumptions in the JP Morgan document are not consistent with a going concern; (2) the market return recommended by JP Morgan is an expected

return, not a required return, which is the goal of cost of capital proceedings; and (3) the JP Morgan document is subject to similar limiting conditions and disclaimers as the KPMG MRP.

Q. How long is the investment time frame contemplated in JP Morgan's "long-term" capital market assumptions?

A. In the forward, JP Morgan states its "long-term" expectations for risks and returns cover a period of 10 to 15 years.

Q. Is that period consistent with a going concern investment such as Tampa Electric?

A. No. An investment horizon of 10 to 15 years is not consistent with a going concern such as Tampa Electric, whose equity is assumed to be outstanding in perpetuity.

Q. Are expected returns on the market by "financial professionals" valid for cost of capital (i.e., required returns) purposes?

A. No, they are not. Expected market returns from pension funds or investment houses try to predict what the

market's earned return will be, not the return that investors require in order to invest, which is the subject of this proceeding. For example, a benefit plan asset manager will match the **expected returns** available from various asset classes to the expected liabilities that must be funded. An investor seeking to maximize their risk-adjusted return will only invest in a security if the expected return is equal to or greater than the **required return**. Because expected returns may or may not equal required returns, one cannot assume pension funding assumptions or expected returns from investment houses (that is, expected returns) may be viewed as a measure of investors' required returns.

Benefit plan managers develop asset allocation and investment decisions based on expected risks and returns for various asset classes subject to the investment objective or expected timing and nature of the liabilities being funded by those investments. In the U.S., they must consider: (1) the diversification of the portfolio; (2) the liquidity and current return of the portfolio relative to the expected cash flow requirements under the plan; (3) the portfolio's projected return relative to the plan's funding objective; and (4) the return expected on alternative investments with similar risks.[89] Pension

asset managers, therefore, are concerned with investing funds at an expected return to meet expected liabilities. As to the documents cited by Dr. Woolridge in his Exhibit JRW-8, several contain clearly stated limiting assumptions and disclaimers, which call into question their use for the purpose of setting the ROE in this proceeding. For example, J.P. Morgan notes:

Assumptions, opinions and estimates are provided for illustrative purposes only. They should not be relied upon as recommendations to buy or sell securities. Forecasts of financial market trends that are based on current market conditions constitute our judgment and are subject to change without notice. We believe the information provided here is reliable, but do not warrant its accuracy or completeness.[90]

Similarly, Blackrock notes:

References to future returns are not promises or even estimates of actual returns a client portfolio may achieve. Assumptions, opinions and estimates are provided for illustrative purposes only. They should not be relied upon as recommendations to buy or sell securities. Forecasts of financial market trends that are based on current market conditions constitute our judgment and are subject to change without notice. We believe the

information provided here is reliable, but do not warrant its accuracy or completeness.[91]

Lastly, BNY Mellon notes:

This material should not be considered as investment advice or a recommendation of any investment manager or account arrangement, and should not serve as a primary basis for investment decisions… This is not investment research or a research recommendation for regulatory purposes as it does not constitute substantive research or analysis. To the extent that these materials contain statements about future performance, such statements are subject to a number of risks and uncertainties.[92]

Those limitations aside, the salient issue is whether investors rely on the sorts of broad market projections cited by Dr. Woolridge in establishing their return requirements, rather than those provided by the analysts that cover the individual stocks contained in the market indices.

Widely used finance texts recommend the use of multiple models in estimating the ROE, in particular the DCF, CAPM, and the RPM. To determine whether the use of broad market expected returns for the purposes of pension asset

management also is an approach recommended by finance texts, I reviewed articles published in financial journals, as well as additional texts that speak to the methods used by analysts to estimate the ROE. An article published in Financial Analysts Journal surveyed financial analysts to determine the analytical techniques that are used in practice.[93] Regarding stock price valuation and cost of capital estimation, the author asked respondents to comment only on the DCF, CAPM, and Economic Value-Added models. Nowhere in that article did the author consider asking whether surveys of expected returns or pension fund assumptions are relevant to the determination of the cost of common equity.

Q. Does the JP Morgan MRP have limiting conditions?

A. Yes, like the KPMG MRP, the JP Morgan MRP document contains clearly stated limiting assumptions and disclaimers as noted above, which call into question their use for the purpose of setting the ROE in this proceeding.

Q. Is there academic literature that supports the conclusion that MRPs using surveys (such as the IESE business school Survey and Duke-CFO Survey)[94] are not widely used by practitioners?

A. Yes. Damodaran, who was cited by Dr. Woolridge throughout his direct testimony, states the following about the applicability of survey MRPs:

While survey premiums have become more accessible, very few practitioners seem to be inclined to use the numbers from these surveys in computations and there are several reasons for this reluctance:

1. Survey risk premiums are responsive to recent stock prices movements, with survey numbers generally increasing after bullish periods and decreasing after market decline. Thus, the peaks in the SIA survey premium of individual investors occurred in the bull market of 1999, and the more moderate premiums of 2003 and 2004 occurred after the market collapse in 2000 and 2001.
2. Survey premiums are sensitive not only to whom the question is directed at but how the question is asked. For instance, individual investors seem to have higher (and more volatile) expected returns on equity than institutional investors and the survey numbers vary depending upon the framing of the question.[footnote omitted]
3. In keeping with other surveys that show differences across sub-groups, the premium seems to vary depending on who gets surveyed. Kaustia, Lehtoranta

and Puttonen (2011) surveyed 1,465 Finnish investment advisors and note that not only are male advisors more likely to provide an estimate but that their estimated premiums are roughly 2% lower than those obtained from female advisors, after controlling for experience, education and other factors.[footnote omitted]

4. Studies that have looked at the efficacy of survey premiums indicate that if they have any predictive power, it is in the wrong direction. Fisher and Statman (2000) document the negative relationship between investor sentiment (individual and institutional) and stock returns.[footnote omitted] In other words, investors becoming more optimistic (and demanding a larger premium) is more likely to be a precursor to poor (rather than good) market returns.

As technology aids the process, the number and sophistication of surveys of both individual and institutional investors will also increase. However, it is also likely that these survey premiums will be more reflective of the recent past rather than good forecasts of the future.[95]

As a result, Dr. Woolridge should not be relying on the

IESE Business School Survey or Duke-CFO Survey in his MRP.

Q. Please now respond to Dr. Woolridge's consideration of the average Damodaran 4.15 percent MRP.

A. Damodaran's method, which is a two-stage form of the DCF model, calculates the present value of cash flows over the five-year initial period, together with the terminal price (based on the Gordon Model), to be received in the last (i.e., fifth) year. The model's principal inputs include the following assumptions:

- Over the coming five years, the S&P 500 Index (the "Index") will appreciate at a rate equal to the compound growth rate in "Operating Earnings";
- Cash flows associated with owning the Index will be equal to the historical average Earnings, Dividends, and Buyback yields, applied to the projected Index value each year; and
- Beginning in the terminal year, the Index will appreciate, in perpetuity, at a rate equal to the 30-day average yield on 30-year Treasury securities.

In terms of historical experience, over the long-term the broad economy has grown at a long-term compound average

growth rate of 6.10 percent.[96] Considered from another perspective, Kroll reports the long-term rate of capital appreciation on Large Company stocks to be 7.90 percent.[97] Using current data as of May 2024,[98] Damodaran's model assumes, however, that the market index will grow by just 5.03 percent over the coming five years.[99]

Dr. Woolridge has not explained why growth beginning five years in the future, and extending in perpetuity, will be less than two-thirds of long-term historical growth. Nowhere in his testimony has Dr. Woolridge explained the fundamental, systemic changes that would so dramatically reduce long-term economic growth, or why they are best measured by the 30-day average long-term Treasury yield.

Further, research by the Federal Reserve Bank of San Francisco calls into question the relationship between interest rates and macroeconomic growth. As the authors noted, "[o]ver the past three decades, it appears that private forecasters have incorporated essentially no link between potential growth and the natural rate of interest: The two data series have a zero correlation."[100] In view of this, the Commission should reject Dr. Woolridge's Damodaran MRP.

Q. Does Dr. Woolridge include an ECAPM analysis?

A. No, he does not.

Q. Why doesn't Dr. Woolridge employ the ECAPM?

A. Dr. Woolridge does not employ the ECAPM for two reasons: (1) he claims that the ECAPM lacks theoretical or empirical validation; and (2) he believes that adjusted betas address any empirical issues within the CAPM, and thus the ECAPM is not necessary.[101]

Q. Have you provided any theoretical or empirical validation of the ECAPM?

A. Yes, I have provided validation of the ECAPM on pages 52-60 of my direct testimony. Dr. Woolridge did not address that evidence in his direct testimony.

Q. Does the use of adjusted betas in a CAPM analysis address the empirical issues with the CAPM?

A. No, they do not. By increasing the expected returns for low beta stocks and decreasing the expected returns for high beta stocks, Dr. Woolridge concludes there is no

need to use the ECAPM.[102] To the contrary, using adjusted betas in a CAPM analysis is not equivalent to using the ECAPM nor is it a duplicative adjustment.

Betas are adjusted because of their general regression tendency to converge toward 1.0 over time, i.e., over successive calculations of beta. As also noted above, numerous studies have determined that the Security Market Line ("SML") described by the CAPM formula at any given moment in time is not as steeply sloped as the predicted SML. Morin states:

…some critics of the ECAPM argue that the use of Value Line adjusted betas in the traditional CAPM amounts to using an ECAPM. This is incorrect. The use of adjusted betas in a CAPM analysis is not equivalent to the ECAPM. Betas are adjusted because of the regression tendency of betas to converge toward 1.0 over time.

* * *

The use of an adjusted beta by Value Line is correcting for a different problem than the ECAPM. The adjusted beta captures the fact that betas regress toward one over time. The ECAPM corrects for the fact that the CAPM under-predicts observed returns when beta is less than one and over-predicts observed returns when beta is greater than one.

* * *

Another way of looking at it is that the Empirical CAPM and the use of adjusted betas comprise two separate features of asset pricing. Assuming arguendo a company's beta is estimated accurately, the CAPM will still understate the return for low-beta stocks. Furthermore, if a company's beta is understated, the Empirical CAPM will also understate the return for low-beta stocks. Both adjustments are necessary.[103]

Moreover, the slope of the SML should not be confused with beta. As Brigham and Gapenski state:

The slope of the SML reflects the degree of risk aversion in the economy – the greater the average investor's aversion to risk, then (1) the steeper is the slope of the line, (2) the greater is the risk premium for any risky asset, and (3) the higher is the required rate of return on risky assets.[12]

Students sometimes confuse beta with the slope of the SML. This is a mistake. As we saw earlier in connection with Figure 6-8, and as is developed further in Appendix 6A, beta does represent the slope of a line, but not the Security Market Line. This confusion arises partly because the SML equation is generally written, in this

book and throughout the finance literature, as ki = RF + bi(kM – RF), and in this form bi looks like the slope coefficient and (kM – RF) the variable. It would perhaps be less confusing if the second term were written (kM – RF)bi, but this is not generally done.[104]

As noted in Appendix 6A of Brigham and Gapenski's textbook, beta, which accounts for regression bias, is not a return adjustment but rather is based on the slope of a different line.

A 1980 study by Litzenberger, et al. found the CAPM underestimates the ROE for companies, such as public utilities, with betas less than 1.00. In that study, the authors applied adjusted betas and still found the CAPM to underestimate the ROE for low-beta companies. Similarly, The Brattle Group's ("Brattle") Risk and Return for Regulated Industries supports the use of adjusted betas in the ECAPM:

Note that the ECAPM and the Blume adjustment are attempting to correct for different empirical phenomena and therefore both may be applicable. It is not inconsistent to use both, as illustrated by the fact that the Litzenberger et.al (1980) study relied on Blume adjusted betas and estimated an alpha of 2% points in a

short-term version of the ECAPM. This issue sometimes arises in regulatory proceedings.[105]

Hence, using adjusted betas does not address the previously discussed empirical issues with the CAPM. In view of the foregoing, my use of adjusted betas in both the traditional and empirical applications of the CAPM is neither incorrect or inconsistent with the financial literature, nor is it a duplicative adjustment.

Q. Have other jurisdictions considered the ECAPM?

A. Yes, it has been accepted in Alaska, Minnesota, Mississippi, Nevada, New York, and Virginia.[106]

Q. Please summarize this subsection.

A. Dr. Woolridge's application of the CAPM is fatally flawed due to his use of MRPs that are not applicable for cost of capital purposes. The use of these MRPs, which understate the required return on the market, serve to artificially reduce the indicated ROE using the CAPM for Dr. Woolridge's proxy groups. Given all of the above, I recommend the Commission reject Dr. Woolridge's CAPM.

Q. Does Dr. Woolridge consider a flotation cost adjustment?

A. No, he does not. Dr. Woolridge claims I "did not provide evidence that TECO has paid flotation costs."[107] Wholly owned subsidiaries such as Tampa Electric receive capital from their parents, and provide returns on the capital that roll up to the parent, which is designated to attract and raise capital based on the returns of those subsidiaries. As such, denying recovery of issuance costs would penalize the investors that fund the utility operations. As shown in Document No. 7, because of flotation costs, an authorized return of 10.85 percent would be required to realize an ROE of 10.75 percent (i.e., a 10-basis point flotation cost adjustment). If flotation costs are not recovered, the growth rate falls and the ROE decreases to 10.65 percent (i.e., below the required return).[108]

Response to Dr. Woolridge's Critiques

Q. Does Dr. Woolridge have any critiques of your analyses?

A. Yes, he does. Dr. Woolridge's critiques of my analyses are: (1) my weighting of DCF results in my recommended ROE; (2) my exclusive use of projected EPS growth rates in my DCF analysis; (3) my employment of the PRPM; (4)

the use of historical MRPs and equity risk premiums in my CAPM and RPM analyses; (5) the level of my required returns on the market have unrealistic assumptions about future earnings and economic growth; (6) my use of the ECAPM; (7) my use of Non-Price Regulated Proxy Groups in my analyses; and (8) my inclusion of a flotation cost adjustment.

I have already addressed critiques 1, 2, 6 and 8 previously in my rebuttal testimony, so I will not address them again here. I will address the remaining critiques in turn below.

Q. Please summarize Dr. Woolridge's concerns with your PRPM analysis.

A. Dr. Woolridge has the following concerns with my PRPM, specifically that: (1) the PRPM uses historical risk premiums to calculate prospective risk premiums; (2) he believes the PRPM has not been accepted by a regulatory commission; and (3) it is a "black box" method that cannot be calculated without proprietary software. I address Dr. Woolridge's concerns below.

Q. Dr. Woolridge cites his discussion of the "Peso Problem"

or U.S. stock market survivorship bias, as well as what he terms "unattainable return bias," as reason to reject the use of historical data to calculate prospective risk premiums.[109] Please respond.

A. There are two flaws with this "problem." The first is that the Peso Problem and unattainable return bias are not applicable to the individual company PRPM-derived equity risk premiums and ROEs, as the individual company results are based on the historical monthly company-specific equity risk premiums and not those of a broad-based index. Second, even relative to a broad-based index, these two "issues" are related to one another. Ibbotson® SBBI® 2013 Valuation Yearbook, Market Results for Stocks, Bonds, Bills, and Inflation 1926-2012 notes: One common problem in working with financial data is properly accounting for survivorship. In working with company-specific historical data, it is important for researchers to include data from companies that failed as well as companies that succeeded before drawing conclusions from elements of that data.

The same argument can be made regarding markets as a whole. The equity risk premium data outlined in this book represent data on the United States stock market.

The United States has arguably been the most successful stock market of the twentieth century. That being the case, might equity risk premium statistics based only on U.S. data overstate the returns of equities as a whole because they only focus on one successful market?

In a recent paper, Goetzmann and Jorion study this question by looking at returns from a number of world equity markets over the past century.[6] (footnote omitted) The Goetzmann-Jorion paper looks at the survivorship bias from several different perspectives. They conclude that once survivorship is taken into consideration the U.S. equity risk premium is overstated by approximately 60 basis points.[7] (footnote omitted) The non-U.S. equity risk premium was found to contain significantly more survivorship bias.

While the survivorship bias evidence may be compelling on a worldwide basis, one can question its relevance to a purely U.S. analysis. If the entity being valued is a U.S. company, then the relevant data set should be the performance of equities in the U.S. market. (italics added)[110]

Thus, given that the "entity being valued" is Tampa

Electric, a U.S. company, the relevant data should be the performance of the U.S. equity market, and given that the thrust of Dr. Woolridge's criticism of the PRPM relates to the company-specific PRPM results, this first "problem" is not applicable and is therefore irrelevant.

Q. In addition to survivorship bias, Dr. Woolridge also provides a listing of "a myriad of empirical problems" which produce "inflated estimates of expected Risk Premiums".[111] Please comment.

A. In addition to survivorship bias, which was addressed above, Dr. Woolridge mentions that the measure of central tendency; the historical time horizon; the change in risk and required return over time; the downward bias in bond historical returns; and unattainable return bias as his "myriad of factors" that inflate the historical market return, and the risk premiums calculated from those returns. While he mentions them, he does not explain anything as to why these phenomena happen or how they affect the overall returns.

Regarding Dr. Woolridge's concern of the measure of central tendency (i.e., arithmetic versus geometric means) used in my MRP, I note that financial literature

endorses the use of the arithmetic mean in several instances. John Y. Campbell of Harvard University states: "When returns are serially uncorrelated, the arithmetic average represents the best forecast of future return in any randomly selected future year."[112] As shown on pages 136 and 137 of SBBI-2023, returns on large stocks and equity risk premiums have serial correlations of 0.00 and 0.01, respectively, showing serial uncorrelatedness.

Only arithmetic mean return rates, equity risk premium, and yields are appropriate for cost of capital purposes because *ex-post* (historical) total returns and equity risk premiums differ in size and direction over time, indicating volatility, i.e., variance or risk. The arithmetic mean captures the prospect for variance in returns and equity risk premiums, providing the valuable insight needed by investors in estimating risk in the *future* when making a *current* investment. Absent such valuable insight into the potential variance of returns, investors cannot meaningfully evaluate prospective risk. The geometric mean of *ex-post* equity risk premiums provide no insight into the potential variance of future returns because the geometric mean relates the change over many time periods to a constant rate of change, rather than the year-to-year fluctuations, or variance, *critical to*

risk analysis. Therefore, the geometric mean is of little to no value to investors seeking to measure risk. Moreover, from a statistical perspective, since stock returns and equity risk premiums are randomly generated, the arithmetic mean is expectational and consistent with the prospective nature of the cost of capital and ratemaking noted above.

The financial literature is quite clear that risk is measured by the variability of expected returns, i.e., the probability distribution of returns.[113] SBBI-2023[114] explains in detail why the arithmetic mean is the correct mean to use when estimating the cost of capital:

The equity risk premium data presented in this book are arithmetic average risk premiums as opposed to geometric average risk premiums. The arithmetic average equity risk premium can be demonstrated to be most appropriate when discounting future cash flows. For use as the expected equity risk premium in either the CAPM or the building-block approach, the arithmetic mean or the simple difference of the arithmetic means of stock market returns and riskless rates is the relevant number.

This is because both the CAPM and the building-block approach are additive models, in which the cost of capital

is the sum of its parts. The geometric average is more appropriate for reporting past performance because it represents the compound average return. [115]

In addition, Weston and Brigham provide the standard financial textbook definition of the riskiness of an asset when they state:

The riskiness of an asset is defined in terms of the likely variability of future returns from the asset. (emphasis added) [116]

Furthermore, Morin states:

The geometric mean answers the question of what constant return you would have had to achieve in each year to have your investment growth match the return achieved by the stock market. The arithmetic mean answers the question of what growth rate is the best estimate of the future amount of money that will be produced by continually reinvesting in the stock market. It is the rate of return which, compounded over multiple periods, gives the mean of the probability distribution of ending wealth. (emphasis added) [117]

In addition, Brealey and Myers note:

The proper uses of arithmetic and compound rates of return

from past investments are often misunderstood... Thus the arithmetic average of the returns correctly measures the opportunity cost of capital for investments... *Moral*: If the cost of capital is estimated from historical returns or risk premiums, use arithmetic averages, not compound annual rates of return. (italics in original)[118]

As previously discussed, investors gain insight into relative riskiness by analyzing expected *future* variability. This is accomplished using the arithmetic mean of a random distribution of returns/premiums. Only the arithmetic mean considers all the returns/premiums over a period of time, hence, providing meaningful insight into the variance and standard deviation of those returns/premiums.

Q. Can it be demonstrated that the arithmetic mean takes into account all of the returns and, therefore, is the only appropriate mean to use when estimating the cost of capital?

A. Yes. Document No. 8 graphically demonstrates this. Page 1 charts the SBBI-2023 returns on large company stocks for every year from 1926 through 2023. It is clear from looking at the year-to-year variation of these returns

that stock market returns and, hence, MRPs vary.

The distribution of each of those returns for the period from 1926 through 2023 is shown on page 2 of Document No. 8. There is a bell-shaped pattern to the probability distribution of returns, an indication that they are randomly generated and not serially correlated. The arithmetic mean of this distribution of returns considers each and every return in the distribution. In doing so, the arithmetic mean takes into account the standard deviation or likely variance which may be experienced in the future when estimating the rate of return based on such historical returns.

In contrast, the geometric mean considers only two of the returns, the initial and terminal years, which, in this case, are 1926 and 2023. Based on only those two years, a constant rate of return is calculated by the geometric average. That constant return is graphically represented by a flat line showing no year-to-year variation for the entire 1926 to 2023 time period. This is obviously unrealistic, based on the histogram shown in Document No. 8.

Q. Do any of Dr. Woolridge's other concerns regarding the

use of historical data have any merit?

A. No, they do not. Turning to the change in risk and required return over time, the downward bias in bond historical returns, and unattainable return bias, those are all a function of the historical time horizon. As to the appropriate time horizon to use in a historical MRP or equity risk premium calculation; SBBI-2023 states:
Our equity risk premium covers 1926 to the present. The original data source for the time series comprising the equity risk premium is the Center for Research in Security Prices. CRSP chose to begin its analysis of market returns with 1926 for two main reasons. CRSP determined that 1926 was approximately when quality financial data became available. They also made a conscious effort to include the period of extreme market volatility from the late 1920s and early 1930s; 1926 was chosen because it includes one full business cycle of data before the market crash of 1929.

Implicit in using history to forecast the future is the assumption that investors' expectations for future outcomes conform to past results. This method assumes that the price of taking on risk changes only slowly, if at all, over time. This "future equals the past" assumption

is most applicable to a random time-series variable. A time-series variable is random if its value in one period is independent of its value in other periods.

The estimate of the equity risk premium depends on the length of the data series studied. A proper estimate of the equity risk premium requires a data series long enough to give a reliable average without being unduly influenced by very good and very poor short-term returns. When calculated using a long data series, the historical equity risk premium is relatively stable. Furthermore, because an average of the realized equity risk premium is quite volatile when calculated using a short history, using a long series makes it less likely that the analyst can justify any number he or she wants. The magnitude of how shorter periods can affect the result will be explored later in this chapter.

Some analysts estimate the expected equity risk premium using a shorter, more recent period on the basis that recent events are more likely to be repeated in the near future; furthermore, they believe that the 1920s, 1930s, and 1940s contain too many unusual events. This view is suspect because all periods contain unusual events. Some of the most unusual events of the last 100 years took

place quite recently, including the inflation of the late 1970s and early 1980s, the October 1987 stock market crash, the collapse of the high-yield bond market, the major contraction and consolidation of the thrift industry, the collapse of the Soviet Union, the development of the European Economic Community, the attacks of Sept. 11, 2001, and the more recent global financial crisis of 2008-2009, and most recently, the market crash in the first quarter of 2020 that was precipitated by the spread of the COVID-19 virus.

It is even difficult for economists to predict the economic environment of the future. For example, if one were analyzing the stock market in 1987 before the crash, it would be statistically improbable to predict the impending short-term volatility without considering the stock market crash and market volatility of the 1929-1931 period.

Without an appreciation of the 1920s and 1930s, no one would believe that such events could happen. The 97-year period starting with 1926 represents what can happen: It includes high and low returns, volatile and quiet markets, war and peace, inflation and deflation, and prosperity and depression. Restricting attention to a shorter

historical period underestimates the amount of change that could occur in a long future period. Finally, because historical event-types (not specific events) tend to repeat themselves, long-run capital market return studies can reveal a great deal about the future. Investors probably expect unusual events to occur from time to time, and their return expectations reflect this.[119]

To this point, Dr. Woolridge cites the downward bias in bond historical returns, which references the 1940s and the immediate post-war period, when the Federal Reserve artificially held down government bond yields, increasing historical MRPs for that period. It could be argued that in the period between 2008 and 2015, the Federal Reserve did the same (artificially held down lending rates) to spur growth. As Kroll stated above, without a view of the prior period, it would be improbable for an analyst to predict future events during similar circumstances. As far as unattainable return bias (that market returns cannot achieve the average return), such comments are meaningless given that the large company common stocks have consistently earned over the 12.04 percent long-term average market return recently. Specifically, out of the last ten years (2014-2023), large company stocks have earned over 12.04 percent in six of those years, as shown

in Document No. 9.

In view of all of the foregoing, it is indeed appropriate to use long-term historical equity risk premiums derived from the arithmetic mean long-term historical return on large company common stocks, and the arithmetic mean long-term historical income return on long-term U.S. government securities, for cost of capital purposes.

Q. Dr. Woolridge has stated that the PRPM has not been accepted by the regulatory community.[120] Has the PRPM been implicitly accepted by other regulatory commissions?

A. Yes. In Docket No. 2017-292-WS, the PSC SC accepted Blue Granite Water Company's entire requested ROE, which included the PRPM. The relevant portion states:

The Commission finds Mr. D'Ascendis' arguments persuasive. He provided more indicia of market returns, by using more analytical methods and proxy group calculations. Mr. D'Ascendis' use of analysts' estimates for his DCF analysis is supported by consensus, as is his use of the arithmetic mean. The Commission also finds that Mr. D'Ascendis' non-price regulated proxy group more accurately reflects the total risk faced [by] price regulated utilities and CWS. Furthermore, there is no

dispute that CWS is significantly smaller than its proxy group counterparts, and, therefore, it may present a higher risk. An appropriate ROE for CWS is 10.45% to 10.95%. The Company used an ROE of 10.50% in computing its Application, a return on the low end of Mr. D'Ascendis' range, and the Commission finds that ROE is supported by the evidence.[121]

In addition, in Docket No. W-354, Subs 363, 364 and 365, the State of North Carolina Utilities Commission ("NCUC") approved my RPM and CAPM analyses, which used PRPM analyses as presented in this proceeding. The relevant portion of the order states:

In doing so the Commission finds that the DCF (8.81%), Risk Premium (10.00%) and CAPM (9.29%) model results provided by witness D'Ascendis, as updated to use current rates in D'Ascendis Late-Filed Exhibit No. 1, as well as the risk premium (9.57%) analysis of witness Hinton, are credible, probative, and are entitled to substantial weight as set forth below.[122]

Q. Is the PRPM in limited use?

A. No, it is not. As discussed in my direct testimony, the PRPM is based on the research of Dr. Robert F. Engle,

dating back to the early 1980s, and is well represented in the academic literature and textbooks specializing in utility cost of capital.[123]

Q. What do textbooks that specialize in the cost of capital for utilities say about the PRPM?

A. On the subject of the PRPM, Pratt and Grabowski state:

> Empirical testing of this new model has yielded data allowing a comparison of results with other techniques including the DCF and CAPM. The results- combined with the stability of PRPM estimates- suggests that the model is robust when applied to electric, natural gas, combination electric and gas, and water utility companies.[124]

In addition, Morin states:

> PRPM cost of capital estimates then began to proliferate based on extensive work published in the Journal of Regulatory Economics, The Electricity Journal, and Energy Policy Journal. It is only a matter of time before the technique becomes even more mainstream in regulatory proceedings.
>
> ***
>
> It is well known that security markets exhibit periods of

relative calm and periods of high volatility for a variety of reasons. The GARCH technique does not explain the volatility but *models* its clustering. Investment analysts and financial institutions typically use models such as GARCH to estimate the volatility of returns for stocks, bonds, and market indices. They use the resulting information to help determine pricing decisions and judge which assets will potentially provide higher returns, as well as to forecast the returns. At its core, GARCH is a statistical modeling technique used in analyzing time-series data where the variance error is believed to be serially autocorrelated, and is used to help predict the volatility of returns on financial assets.[125]

Q. Dr. Woolridge claims the PRPM is a "black box" method, which can only be performed using your proprietary software. is that true?[126]

A. No, it is not. The GARCH methodology is available in various statistical packages such as EViews®, SAS, RATS, S-Plus and JMulti, which are not cost-prohibitive and provide instructions for using the various statistical methodologies in their software. I provided all parties in this proceeding the backup data to run their own GARCH models. While the software I used in this proceeding

costs approximately $1,500 for a single user commercial license,[127] JMulti is a free downloadable software with GARCH estimation applications.

Q. Do you include results of your analyses excluding the PRPM in this proceeding?

A. Yes, I do. My recommended range of ROEs including the PRPM is 10.31 percent to 11.93 percent and my recommended range of ROEs excluding the PRPM is 10.31 percent to 11.88 percent. The inclusion of the PRPM is not material to my analysis and does not change my recommendation.

Q. Dr. Woolridge believes that your MRP estimates derived from Bloomberg and *Value Line* data use excessive growth rates. Please respond.

A. I disagree with Dr. Woolridge's statement. The implied expected market returns using Bloomberg and *Value Line* data are only two out of six measures. The average implied market return for both my direct and rebuttal testimonies represents approximately the 49th and 48th percentile, respectively, of actual returns observed from 1926 to 2023, as shown on page 3 of Document No. 8. As will be discussed below, multiple measures give greater

insight into the investor-required return than a limited number of measures. The average implied market return for my Direct and Rebuttal Testimonies, including the PRPM, are 14.17 percent and 13.34 percent, respectively, which are comparable to the average historical market return of approximately 12.04 percent. Moreover, because market returns historically have been volatile, my market return estimates are statistically indistinguishable from the long-term arithmetic average market data.[128]

Q. Dr. Woolridge critiques your market DCF by comparing your implied growth rate with GDP growth, implying that they are equivalent measures.[129] Do you agree?

A. No, I do not. The goal of the market DCF is to calculate an investor-required return on the market, and market returns are not correlated with GDP growth (0.137).[130] Because GDP growth and market returns are not related, Dr. Woolridge's concerns should be dismissed.

Q. What is your response to Dr. Woolridge's concern with the use of a Non-Price Regulated Proxy Group?

A. As to the comparability of my Non-Price Regulated and Utility Proxy Groups, the selection criteria for my Non-

Price Regulated Proxy Group was based on ranges of two measures of risk: (1) the unadjusted beta of the Utility Proxy Group, which measures systematic, or market risk; and (2) the standard error of the regression, which gave rise to those betas, measuring unsystematic or diversifiable risk. Systematic plus unsystematic risk is one definition of total risk. This is agreed to by Dr. Woolridge in his direct testimony.[131]

As discussed in my direct testimony, business and financial risks may vary between companies and proxy groups, but if the collective average betas and standard errors of the regression of the groups are similar, then the total, or aggregate, non-diversifiable market risks and diversifiable risks are similar.[132]

Q. Is there a specific advantage to using your selection criteria, which uses measures of systematic and unsystematic risk, instead of using the combination of business and financial risk?

A. Yes. *Value Line* unadjusted betas and the standard error of the regressions giving rise to those betas are measurable objective values, whereas total business risk[133] and financial risk measures are more subjective.

Q. Have you used other measures of total risk to compare your Utility Proxy Group and your Non-Price Regulated Proxy Group?

A. Yes. I have compared the average and median *Value Line* Safety Ranking for the Utility Proxy Group and Non-Price Regulated Proxy Group. As shown in Document No. 10, the Safety Rankings of the Utility Proxy Group and the Non-Price Regulated Proxy Group are comparable, indicating comparable total risk.

Q. Did you directly consider your Non-Price Regulated Proxy Group results in your recommended range of ROEs in this proceeding?

A. No, I did not. As shown in my original and my updated results, the Non-Price Regulated Proxy Group's indicated results exceeded my recommended ranges.

VI. RESPONSE TO FEA WITNESS WALTERS

Q. Please summarize Mr. Walters' recommendation regarding Tampa Electric's ROE.

A. Mr. Walters recommends an ROE of 9.60 percent, within a range of 9.20 percent to 10.00 percent.[134] Mr. Walters'

range is derived using three versions of the DCF, a risk premium model, and the CAPM.

Q. Do you have any general comments on Mr. Walters' recommended range of ROEs and the indicated results of his models?

A. Yes, I do. As shown on his Figure CCW-5, the indicated results of Mr. Walters' cost of equity models generally exceed his recommended range. As shown on Document No. 11, Mr. Walters provided 20 individual cost of equity estimates; six DCF results; five RPM results; and nine CAPM results. Of those results, only one of those (8.80 percent) is below his recommended range, while nine exceed the top of his range, and 14 of 20 of his indicated results exceed his recommended ROE of 9.60 percent. While I do not agree with Mr. Walters' application of his models, as will be explained in detail below, his own model results indicate a higher ROE for Tampa Electric than he ultimately recommends.

Q. What are the areas of disagreement between you and Mr. Walters?

A. The principal areas in which I disagree with Mr. Walters

include: (1) his contention that utilities are maintaining their credit quality despite being awarded lower ROEs; (2) his recommended hypothetical capital structure; (3) specific inputs to his DCF model; (4) the assumptions and methods underlying his RPM; (5) specific assumptions and inputs to his CAPM; and (6) his decision to not reflect any flotation costs. I discussed (1) earlier in this testimony and will not repeat that discussion here.

Hypothetical Capital Structure

Q. Does Mr. Walters accept Tampa Electric's requested capital structure?

A. No, he does not. Mr. Walters recommends that the Commission authorize a hypothetical capital structure which includes a 52.00 percent equity ratio, stating Tampa Electric did not demonstrate a need to be awarded an equity ratio exceeding 52.00 percent, which is consistent with equity ratios awarded to other electric utilities around the country.[135]

Q. Do you agree with Mr. Walters' reasoning?

A. No, I do not. As discussed in my direct testimony,[136] Tampa

Electric's requested capital structure is how it is financed. If the Commission authorizes a capital structure that understates Tampa Electric's equity ratio, it will ultimately disadvantage customers and shareholders.

Also, as discussed in my direct testimony,[137] Tampa Electric's requested common equity ratio is within the range of common equity ratios maintained by the Utility Proxy Group companies and their operating subsidiaries.

Q. Is Tampa Electric's requested equity ratio within the range of equity ratios authorized by regulatory commissions?

A. Yes, it is. As shown on Document No. 12, Tampa Electric's requested equity ratio is within the range of equity ratios authorized by regulatory commissions for each year from 2016 to 2024.

Q. Given the above, should a hypothetical capital structure be considered for Tampa Electric?

A. No, it should not. The factors typically considered relative to the use of a regulated subsidiary's actual or

expected capital structure, or a hypothetical capital structure, are provided by David C. Parcell in The Cost of Capital – A Practitioner's Guide ("CRRA Guide") prepared for SURFA and provided as the study guide to candidates for SURFA's Certified Rate of Return Certification Examination. The CRRA Guide notes that there are circumstances where a hypothetical capital structure is used in favor of an actual or expected capital structure. They are:

(i) The utility's capital structure is deemed to be substantially different from the typical or "proper" utility capital structure; or

(ii) The utility is funded as part of a diversified organization whose overall capital structure reflects its diversified nature rather than its utility operations only.[138]

Phillips echoes the CRRA Guide when he states:

Debt ratios began to rise in the late 1960s and early 1970s, and the financial condition of the public utility sector began to deteriorate. It became the common practice to use actual or expected capitalizations; actual where a historic test year is used, expected when a projected or future test year is used. (footnote omitted)

The objective, in short, shifted from minimization of the

short-term cost of capital to protection of a utility's ability "to raise capital at all times. This objective requires that a public utility make every effort to keep indebtedness at a prudent and conservative level." (footnote omitted)

A hypothetical capital structure is used only where a utility's actual capitalization is clearly out of line with those of other utilities in its industry or where a utility is diversified. (footnote omitted) (italics added)[139]

As Tampa Electric's capital structure is within the range of typical utilities as represented by the Utility Proxy Group, their operating subsidiaries, and other regulated electric utilities around the country, a hypothetical capital structure should not be considered for Tampa Electric at this time.

Q. Is the use of an operating utility's actual capital structure consistent with FERC precedent?

A. Yes, it is. The use of an operating subsidiary's capital structure is consistent with the FERC precedent, under which they use the applicant's capital structure, where possible.[140] In particular, the FERC will use the utility

operating company's capital structure if it meets three criteria: (1) it issues its own debt without guarantees; (2) it has its own bond rating; and (3) it has a capital structure within the range of capital structures approved by the commission.[141] Tampa Electric meets all of these criteria, and therefore the Commission should approve Tampa Electric's request.

Discounted Cash Flow Model Analyses

Q. Please summarize Mr. Walters' DCF analyses.

A. Mr. Walters uses three DCF models; a constant growth DCF, a sustainable growth DCF analysis, and a multi-stage DCF ("MSDCF"), all using price data for the 13-week period ending May 10, 2024. For his projected three- to five-year EPS growth rates, Mr. Walters uses Zacks, S&P Capital IQ Market Intelligence, and Yahoo! Finance; and he uses *Blue Chip* for the terminal growth rate in his MSDCF.[142] Using these inputs, he derives indicated ROEs between 10.50 percent and 10.98 percent for his constant growth DCF models, 9.28 percent and 9.37 percent for his sustainable growth DCF, and between 9.31 percent and 9.35 percent for his MSDCF model. From these results, Mr. Walters concludes that more weight should be placed on his sustainable growth and MSDCF models.[143]

Q. Do you have any concerns with Mr. Walters' application of the DCF model and his interpretation of his results?

A. Yes, I do. I have concerns with (1) his reasoning to discount his constant growth DCF using analysts' growth; (2) his use of "sustainable" growth rates in a DCF model, and (3) his use of the MSDCF. I discussed why sustainable growth rates in a DCF analysis are inappropriate in my response to Dr. Woolridge, so I will not repeat that discussion here. I will discuss my remaining concerns below.

Q. Please summarize Mr. Walters' comments as they relate to the reasonableness of analyst growth rates in the constant growth DCF model.

A. Mr. Walters argues that "Although there may be short-term peaks, the long-term sustainable growth rate for a utility stock cannot exceed the growth rate of the economy in which it sells its goods and services."[144] Mr. Walters estimates the growth rate in GDP to be 4.14 percent relative to the 6.33 percent average growth rate based on analysts' growth rates in his constant growth DCF model.[145]

Q. Why is long-term growth in GDP not an upper limit for

growth, as Mr. Walters contends?

A. First, GDP is not a market measure – Rather it is a measure of the value of the total output of goods and services excluding inflation in an economy. While I understand that EPS growth is also not a market measure, it is well established in the financial literature that projected growth in EPS is the superior measure of dividend growth in a DCF model.[146] Furthermore, GDP is the sum of all private industry and government output in the United States, and its growth rate is simply an average of the value of those industries. To illustrate, Document No. 13 presents the compound growth rate of the industries that comprise GDP from 1947 to 2023. Of the 15 industries represented, seven industries, including utilities, grew faster than the overall GDP, and eight industries grew slower than the overall GDP.[147] Because of this, the GDP growth rate cannot be an upper limit for long-term growth, as several industries have grown faster than GDP for extended periods of time.

Q. How does the Utility Proxy Group's growth rate compare to the historical growth rate of the utility industry for the period 1947 to 2023?

A. The average growth rate used in my updated DCF analysis is 6.01 percent, which is comparable to the long-term growth rate of the utility industry of 6.55 percent. The comparability of these growth rates reinforces the maturity of the industry and that the multi-stage DCF model is not needed.

Q. Did you conduct another analysis that calculates the amount of time it would take an industry to overtake the entire economy?

A. Yes. I examined the value added by industry from 1947 to 2023 in Document No. 13 and used the compound annual growth rates for the highest growth rate industry (Educational Services, Healthcare, and Social Assistance, 8.55 percent / year) to see when that industry would comprise the entire economy. In the year 2290, or 343 years from the 1947 starting point, the industry would comprise over 50 percent of GDP; and in the year 8775, or 6,828 years after the 1947 starting point, the industry would comprise 100 percent of GDP.[148] Not only have individual companies or industries consistently grown at rates beyond GDP growth, but they have done so without overtaking the entire economy. While Mr. Walters' argument is technically correct, it is unrealistic at

best.

Q. Is Mr. Walters' MSDCF model a reasonable approach to estimating the company's ROE?

A. No, it is not. As described by Dr. Woolridge,[149] the multi-stage DCF model and its growth rates reflect the company/industry lifecycle, which is typically described in three stages: (1) the growth stage, which is characterized by rapidly expanding sales, profits, and earnings. In the growth stage, dividend payout ratios are low in order to grow the firm; (2) the transition stage, which is characterized by slower growth in sales, profits, and earnings. In the transition stage, dividend payout ratios increase, as their need for exponential growth diminishes; and (3) the maturity (steady-state) stage, which is characterized by limited, slightly attractive investment opportunities, and steady earnings growth, dividend payout ratios, and returns on equity.

Q. Are there examples in basic finance texts that support your position?

A. Yes. For example, in *Investments*, life cycles and multi-stage growth models are discussed:

As useful as the constant-growth DDM (dividend discount model) formula is, you need to remember that it is based on a simplifying assumption, namely, that the dividend growth rate will be constant forever. In fact, firms typically pass through life cycles with very different dividend profiles in different phases. In early years, there are ample opportunities for profitable reinvestment in the company. Payout ratios are low, and growth is correspondingly rapid. In later years, the firm matures, production capacity is sufficient to meet market demand, competitors enter the market, and attractive opportunities for reinvestment may become harder to find. In this mature phase, the firm may choose to increase the dividend payout ratio, rather than retain earnings. The dividend level increases, but thereafter it grows at a slower pace because the company has fewer growth opportunities.

Table 18.2 illustrates this pattern. It gives Value Line's forecasts of return on assets, dividend payout ratio, and 3-year growth in earnings per share for a sample of the firms in the computer software industry versus those of east coast electric utilities…
By in large, the software firms have attractive investment opportunities. The median return on assets of these firms

is forecast to be 19.5%, and the firms have responded with high plowback ratios. Most of these firms pay no dividends at all. The high return on assets and high plowback result in rapid growth. The median growth rate of earnings per share in this group is projected at 17.6%.

In contrast, the electric utilities are more representative of mature firms. Their median return on assets is lower, 6.5%; dividend payout is higher, 68%; and median growth is lower, 4.6%.

***

To value companies with temporarily high growth, analysts use a multistage version of the dividend discount model. Dividends in the early high-growth period are forecast and their combined present value is calculated. Then, once the firm is projected to settle down to a steady-growth phase, the constant-growth DDM is applied to value the remaining stream of dividends.[150] (Clarification and emphasis added)

As also described by Dr. Woolridge,[151] the economics of the public utility business indicate that the industry is in the steady-state, or constant-growth stage of a multi-stage DCF. This means that the three- to five-year projected growth rates for each company would be the

"steady-state" or terminal growth rate appropriate for the DCF model for utility companies, not the GDP growth rate, which is not a company-specific growth rate, nor is it an upward bound for growth.

Risk Premium Method

Q. Please briefly describe Mr. Walters' RPM.

A. Mr. Walters defines the "Risk Premium" as the difference between average annual authorized equity returns for electric utilities and a measure of long-term interest rates each year from 1986 through 2024.[152] Mr. Walters' first approach to estimating the RPM looks to the 30-year Treasury yield, and his second considers the average A-rated utility bond yield.[153] In each case, Mr. Walters establishes his risk premium estimate by reference to five-year and ten-year rolling averages.

Mr. Walters looks to 39 years of returns, arguing "a relatively long period of time where stock valuations reflect premiums to book value indicates that the authorized ROEs and the corresponding equity risk premiums were supportive of investors' return expectations."[154] Mr. Walters considers the current and projected capital markets when selecting equity risk

premiums ("ERP") of 5.63 percent (over Treasury bonds) and 4.27 percent (over Utility bonds).[155] Applying a forecasted 30-year Treasury yield and 13- and 26-week average A-rated and Baa-rated public utility bond yields to those ERPs result in indicated ROEs ranging from 9.63 percent to 10.16 percent.[156]

Q. Do you know how Mr. Walters calculated his ERPs?

A. No, I do not. On page 45 of his direct testimony, he refers to "average" risk premiums of 5.63 percent and 4.27 percent, but they do not correspond to any of the average ERPs presented in Exhibits CCW-10 and CCW-11. For example, the average five-year rolling average ERP over Treasury bonds and A-rated Utility bonds are 5.73 percent and 4.39 percent, respectively, or 10 and 12 basis points higher than what Mr. Walters uses in his analysis. While I do not agree with Mr. Walters' application of the RPM, it appears that his results are understated based on this error.

Q. Do you have specific concerns with Mr. Walters' application of the RPM?

A. Yes. I have three concerns with Mr. Walters' analysis,

namely: (1) the use of the 1986 – 2024 time period; (2) Mr. Walters' method and recommendation ignore an important relationship revealed by his own data, i.e., that there is an inverse relationship between ERPs and interest rates (whether measured by U.S. Treasury bonds or public utility bond yields); and (3) his mismatched application of projected Treasury bond yields and current utility bond yields.

Q. What are your concerns with Mr. Walters 1986 – 2024 time period to determine an ERP?

A. Mr. Walters selected the period 1986 – 2024 "because public utility stocks consistently traded at a premium to book value during that period."[157] He concludes that "[o]ver this period, an analyst can infer authorized ROEs were sufficient to support market prices that at least exceeded book value."[158] Mr. Walters is mistaken. As discussed previously, market values can diverge from book values for a myriad of reasons as noted by Bonbright.[159] Phillips also notes:[160]

Many question the assumption that market price should equal book value, believing that 'the earnings of utilities should be sufficiently high to achieve market-to-book ratios which are consistent with those prevailing

for stocks of unregulated companies.[161]

In addition, relative to the 1986 – 2024 time period, SBBI – 2023 makes it clear that the arbitrary selection of short historical periods is highly suspect and unlikely to be representative of long-term trends in market data as discussed previously.

The academic literature demonstrates and confirms that while regulation is a substitute for marketplace competition, it has an effect on, but no direct control over market prices, and hence M/B ratios of regulated utilities. The academic literature also shows that a subset of data could be subject to data manipulation. Because of this, no valid conclusion of ERPs can be drawn for the 1986 – 2024 period.

Q. Is there a direct relationship between the M/B ratios of unregulated companies and their earned rates of return on book common equity?

A. No. Since regulation acts as a surrogate for competition, it is reasonable to look to the competitive environment for evidence of a direct relationship between M/B ratios and earned returns on common equity. To determine if Mr.

Walters' implicit assumption of such a direct relationship has any merit, I observed the M/B ratios and the earned returns on common equity of the S&P Industrial Index, and the S&P 500 Composite Index, over a long period of time. On Document No. 14, I have shown the M/B ratios, rates of return on book common equity (earnings / book ratios), annual inflation rates, and the earnings / book ratios net of inflation (real rate of earnings) annually for the years 1947 through 2023. In each year, the M/B ratios of the S&P Industrial Index equaled or exceeded 1.00 times (or 100 percent). In 1949, the only year in which the M/B ratio was 1.00, the real rate of earnings on book equity, adjusted for deflation, was 18.10 percent (16.30 percent + 1.80 percent). In contrast, in 1961, when the S&P Industrial Index experienced an M/B ratio of 2.01 times, the real rate of earnings on book equity for the S&P Industrial Index was only 9.10 percent (9.80 percent-0.70 percent). In 1997, the M/B ratio for the Index was 5.88 times, while the average real rate of earnings on book equity was 22.90 percent (24.60 percent-1.70 percent).

This analysis clearly demonstrates that competitive, unregulated companies have never sold below book value, on average, and have sold at book value in only one year

since 1947. Because this lack of a relationship between earnings / book ratios and M/B ratios covers a 77-year period, 1947 through 2023, it cannot be validly argued that going forward a relationship would exist between earnings / book ratios and M/B ratios. The analysis shown on Document No. 14 coupled with the supportive academic literature, demonstrate the following: (1) that while regulation is a substitute for marketplace competition, it can influence, but not directly control market prices, and hence, M/B ratios; and (2) that the rates of return investors expect to achieve, and which influence their willingness to pay market prices well in excess of book values have no meaningful, direct relationship to rates of earnings on book equity. Because of this, no valid conclusion of ERPs can be drawn for the 1986-2024 period because of M/B ratios in excess of one.

Q. Does Mr. Walters' RPM analysis ignore the inverse relationship between ERPs and interest rates?

A. Yes. Reviewing the data in Exhibits CCW-10 and CCW-11, I discovered that the ERP as presented by Mr. Walters tends to move inversely with changes in interest rates. In other words, as interest rates fall, the ERP increases.

Q. How does Mr. Walters' data show the inverse relationship between ERPs and interest rates?

A. As shown on Document No. 15, empirical analyses of the data presented in Exhibits CCW-10 and CCW-11, ERPs have moved inversely with changes in U.S. Treasury bond yields for 1986 – 2024.

When looking at the inverse relationship between ERP and interest rates, as shown on Document No. 15, which use Mr. Walters' data, the R-squareds are in excess of 83 percent. This means that the movement in interest rates explains over 83 percent of the movement in ERP, which I would consider to be a strong relationship.[162]

Q. Mr. Walters used current A- and Baa-rated public utility bond yields in his RPM analysis. Please comment.

A. Mr. Walters' use of a Baa-rated public utility bond yield is incorrect for two reasons. First, Mr. Walters applies a Baa-rated public utility bond yield to an ERP derived from A-rated public utility bonds, improperly matching the ERP measured relative to A-rated public utility bond yields with a Baa rated public utility bond yield. Second, Mr. Walters' use of current A- and Baa-rated public

utility bond yield is inconsistent with his entire return on common equity analysis. For example, Mr. Walters used an expected risk-free rate in both his CAPM analysis and his U.S. Treasury Bond-based ERP analysis, analyst projections of EPS and sustainable growth in his constant growth DCF model applications and projected inflation in his derivation of his projected market ERP. For internal consistency in his analyses and to be theoretically correct, as well as consistent with the prospective nature of both ratemaking and the cost of capital, a projected A-rated public utility bond yield should be used in Mr. Walters' RPM analyses.

Q. How can a projected A-rated public utility bond yield be estimated?

A. One source is *Blue Chip's*[163] forecasts of Aaa corporate bond yields adjusted to reflect a recent spread between A-rated public utility bond and Aaa corporate bond yield. *Blue Chip* forecasts Aaa-rated corporate bonds to yield an average 5.05 percent, based upon an average of the six quarters ending with the third quarter 2025 and 2025-2029 and 2030- 2034. However, the 5.05 percent projected Aaa corporate bond yield needs to be adjusted to estimate an equivalent A-rated public utility bond yield. Using a

three-month average bond yield spread (approximately 13 weeks, consistent with Mr. Walters' analysis), an upward adjustment of 40 basis points is necessary, resulting in a prospective A-rated public utility bond yield of 5.45 percent as derived in note 2 on page 3 of Document No. 15.

Q. Please summarize the range of RPM indicated common equity cost rates after correcting Mr. Walters' RPM analysis.

A. As shown on Document 15, applying a projected risk-free rate of 4.31 percent[164] and prospective A2-rated public utility bond yield of 5.45 percent[165] to the regression equations in Document No. 15 produces results of 6.07 percent and 4.83 percent, respectively. This results in an ROE of 10.38 percent and 10.28 percent using the projected 30-year Treasury and the prospective A-rated public utility bond yield, respectively. As discussed previously, while I do not agree with Mr. Walters' basic RPM, the corrected RPM results based upon regression analyses of his data are more appropriate indicators of common equity cost rate.

Capital Asset Pricing Model

Q. Please briefly summarize Mr. Walters' CAPM analysis and

results.

A. Mr. Walters' CAPM analysis combines three estimates of the MRP and three estimates of beta, along with his projected risk-free rate of 4.20 percent from *Blue Chip*[166] and a recent 30-year Treasury bond yield of 4.61 percent,[167] to calculate nine CAPM estimates that range from 8.80 percent to 12.03 percent.[168]

Mr. Walters' first MRP estimate is based on the historical average real market return over the 1926-2023 period as reported by Morningstar Direct, combined with an expected inflation rate of 2.40 percent to calculate an expected market return of 11.64 percent. Subtracting his 4.20 percent projected risk-free rate results in an MRP of 7.44 percent.[169]

In the second calculation, he applies a modified version of FERC's DCF method to the S&P 500 Index to calculate the total expected market return. Mr. Walters calculates the weighted average dividend yield and growth rate for each company in the S&P 500, excluding non-dividend paying companies and companies with growth rates that are negative or above 20 percent. Mr. Walters then applies a one-half growth rate adjustment to the resulting

dividend yield to arrive at the expected dividend yield for the S&P 500 of 1.90 percent. Adding the expected dividend yield to the weighted average growth rate of 10.80 percent results in a market return of 12.70 percent.[170] Subtracting his 4.20 percent projected risk-free rate from his DCF-based market return of 12.70 percent results in an MRP of 8.50 percent.[171] Mr. Walters then performed the same analysis including all companies in the S&P 500, which resulted in an MRP of 8.50 percent.[172]

Mr. Walters' final MRP is the 5.50 percent "normalized" MRP recommended by Kroll.[173]

Q. Is Mr. Walters' CAPM methodology and result sound?

A. No. Mr. Walters' CAPM analysis is flawed in at least five respects: (1) while Mr. Walters does use a short-term projected risk-free rate in his CAPM analysis, he does not consider the long-term projection of the risk-free rate published by *Blue Chip*; (2) he relies, in part, on Vasicek betas; (3) he relies, in part, on historical betas; (4) his choice and calculation of his MRP are flawed; and (5) he did not perform an ECAPM analysis.

Q. Does Mr. Walters rely on *Blue Chip* throughout his analysis?

A. Yes, he does. Specifically, Mr. Walters uses *Blue Chip* for his short-term projected interest yield on 30-year Treasury bonds for his CAPM analysis, his terminal growth rate in his multi-stage DCF model analysis, and also discusses five- and ten-year projected interest rates in the capital markets section of his direct testimony.[174] Because of Mr. Walters' reliance on *Blue Chip*, I find it curious that he does not use the long-term projections published by *Blue Chip* for his analysis.

Not incorporating the longest projection available is inconsistent with Mr. Walters' application of the DCF model in which there is an assumption that the projected "g" is constant into perpetuity, creating a mismatch between the application of his models. It is also inconsistent with the Efficient Market Hypothesis ("EMH").

Q. What is the EMH?

A. According to Eugene F. Fama,[175] a market in which prices always "fully reflect" available information is called

"efficient." There are three forms of the EMH, namely:

- The "weak" form asserts that all past market prices and data are fully reflected in securities prices. In other words, technical analysis cannot enable an investor to "outperform the market."
- The "semi-strong" form asserts that all publicly available information is fully reflected in securities prices. In other words, fundamental analysis cannot enable an investor to "outperform the market."
- The "strong" form asserts that all information, both public and private, is fully reflected in securities prices. In other words, even insider information cannot enable an investor to "outperform the market."

The "semi-strong" form is generally considered the most realistic because the illegal use of insider information can enable an investor to "beat the market" and earn excessive returns, thereby disproving the "strong" form. The semi-strong form of the EMH assumes that all information (including long-term forecasts of interest rates) are available to the investor, which means the long-term forecasted interest rate would be considered by investors when making investment decisions and,

therefore, should be included in Mr. Walters' CAPM analysis.

Q. Do you agree with Mr. Walters' use of Vasicek-adjusted betas in his CAPM analysis?

A. No, I do not. First, Vasicek-adjusted betas are not widely available in the market or known to investors compared to Blume-adjusted betas. Second, the Vasicek adjustment looks to standard errors of betas; the higher the standard error, the less reliable the beta estimate is, and the larger the adjustment of the beta to the market, peer group, or industry average beta. While the Vasicek-adjusted beta adjusts beta toward the industry average, it does not account for the tendency of low-beta stocks to understate expected risk. Third and finally, Duff & Phelps cites to a Delaware Court of Chancery decision that may support that more extreme betas tend to revert to the industry mean over time,[176] but Mr. Walters has provided no evidence that utility betas are extreme, nor has he provided any evidence that utility betas do not revert to 1.0. In fact, the recent movement of utility betas toward 1.0 shows that utility betas should be Blume-adjusted and not Vasicek-adjusted.

Q. Do you agree with Mr. Walters' use of historical betas in his CAPM analysis?

A. No, I do not. The determination of the ROE is a measure of the investor expected return at any given point of time using current and expected measures. The use of historical betas is neither current nor expected. The analytical models that form the basis of the recommended ROE represent a snapshot of Tampa Electric's investor-required return at the time of the analysis and should not be normalized based on speculation that current market conditions may change in the future that are not based on publicly-available data.

Q. Do you agree with Mr. Walters' exclusion of companies with negative growth rates and growth rates greater than 20.00 percent in his DCF-based market return estimate?

A. No, I do not. As a preliminary matter, the expected market return is meant to reflect just that – all companies in the market. Furthermore, excluding companies with growth rates outside a certain band causes the estimate of the market return to also no longer reflect the overall market, but rather an arbitrary subset of companies within the market.

In addition, investors recognize the market includes both dividend and non-dividend paying companies. Some of the largest companies, based on market capitalization, would be excluded from the MRP calculation because they do not pay dividends. For example, based on Mr. Walters' workpapers, there would be 190 excluded companies from his market return calculation based on the exclusion of both non-dividend paying companies and companies with growth rates below 0.00 percent or above 20.00 percent. Those 190 companies comprise approximately 38.00 percent of the entire S&P 500 market capitalization. As shown on Document No. 16, of the 190 companies that were excluded, 99 do not pay dividends and comprise 16.34 percent of the S&P 500 market capitalization. Regarding growth rates below 0.00 percent or above 20.00 percent, based on Mr. Walters' workpapers, Mr. Walters excluded 120 companies which comprise 27.21 percent of the entire S&P 500 market capitalization, also shown on Document No. 16. Excluding either set of companies, as noted above, has a significant effect on the calculated expected market return and by extension, the MRP. That is, because the companies Mr. Walters removes tend to have higher growth rates, his methodology biases the estimate of the market return downward. More importantly, the resulting estimate does not represent an estimate of the market.

Q. Is there another effect on CAPM inputs by removing companies from the market DCF calculation?

A. Yes. My methodological concern is with internal consistency in the model's application. A fundamental assumption of the CAPM is that the required return is proportional to the risk of the investment. Under the CAPM, the beta is the measure of risk, and is calculated by comparing the subject security's returns to the overall market returns. Because the beta is calculated relative to the overall market, which includes both dividend paying and non-dividend paying companies, as well as companies outside of the bounds of 0.00 percent to 20.00 percent, it is important that the expected market return also reflect the overall market. As noted above, Mr. Walters' proposed estimate of the market return includes only approximately 63.00 percent of the overall S&P 500 on an absolute and market capitalization basis. As such, I do not believe it is appropriate to combine betas calculated relative to the entire market with a MRP calculated using only a subset of the market (i.e., dividend paying companies with growth rates within a range of 0.00 percent to 20.00 percent).

If Mr. Walters chooses to remove non-dividend paying

companies, and companies with growth rates below 0 percent and above 20.00 percent from the expected market return, he likewise should remove them from the index used to calculate the beta, which would require significant adjustments and calculations. Because betas are a positive function of the correlation of returns between the subject company and the index, removing those companies may increase the correlation, thereby increasing the beta.

In addition, dividend paying companies, or companies with non-negative growth rates less than 20.00 percent, may have lower volatility than non-dividend paying companies. Because the beta also reflects relative volatility (i.e., subject company relative to the index), if the volatility of the index falls, the relative volatility will increase, again increasing the beta. Mr. Walters' position inherently assumes the proxy companies' correlation coefficients and relative volatility would remain constant, and their betas would remain unchanged if non-dividend paying companies, or companies with non-negative growth rates less than 20.00 percent, are removed from the market index. Mr. Walters has not shown that to be the case.

For all of these reasons, Mr. Walters' adjustments to his market DCF should be ignored by the Commission.

Q. What is your position on the 5.50 percent MRP quoted by Kroll?

A. As discussed previously in this rebuttal testimony, the Kroll MRP is not transparent and is not accurate as compared to other Kroll data, such as the long-term historical arithmetic average MRP and the Ibbotson and Chen build up method. Because of this, the Commission should ignore this data in its contemplation of the ROE for Tampa Electric.

Q. Did Mr. Walters conduct an ECAPM analysis?

A. No, he did not. Mr. Walters does not conduct an ECAPM analysis because he does not agree with the use of adjusted betas in the ECAPM.[177]

Q. What is your response to Mr. Walters' concern with the use of adjusted betas in the ECAPM structure?

A. As discussed in my response to Dr. Woolridge, the use of adjusted betas in both the traditional and empirical

applications of the CAPM is neither incorrect or inconsistent with the financial literature, nor is it an unnecessary redundancy.

Q. What would the results of Mr. Walters' CAPM analysis be had he relied on proper inputs?

A. As shown in Document No. 17, using Mr. Walters' Value Line betas from page 1 of CCW-15, I have corrected Mr. Walters CAPM analysis by: (1) including both the short-term and long-term projections of the 30-year Treasury yield in the estimation of the risk-free rate; (2) excluding his market returns based on the "D&P Normalized" method and "Risk Premium Method"; (3) excluding his historical and S&P Capital IQ betas; (4) correcting his estimate of the "FERC DCF" market return to include all companies in the S&P 500; and (5) estimating the ECAPM. Those corrections result in a CAPM estimate of 15.91 percent and an ECAPM estimate of 16.16 percent, which is somewhat above my CAPM results and my analytical results.

Adjustments to Common Equity Cost Rate

Q. Did Mr. Walters include flotation costs in his recommended ROE?

A. No, he did not. Mr. Walters states that he is unaware of the Commission allowing the recovery of flotation costs in the allowed ROE.[178]

Q. Has the Commission allowed flotation costs in the allowed ROE?

A. Yes, it has. As described in my direct testimony,[179] the Commission stated the following regarding my proposed flotation cost adjustment:

In PGS's last rate case in 2008, we did not make a specific adjustment for flotation costs, but in our order we stated that we have traditionally recognized a reasonable adjustment for flotation costs in the determination of the investor required return...We find witness D'Ascendis's method to determine the flotation cost is credible and provided persuasive evidence for his recommendation to include a flotation cost of 9 basis points.[180]

Given the above, I recommend the Commission to continue correctly including flotation costs in the allowed ROE.

Response to Mr. Walters' Critiques

Q. Does Mr. Walters have any critiques of your analyses?

A. Yes, he does. Mr. Walters' critiques of my direct testimony are as follows: (1) that I am double counting business risk; (2) that my recommendation at the upper end of the range is unsupported; (3) my use of a flotation cost adjustment; (4) that I rely solely on the constant growth DCF; (5) that I exclude IDACORP, Inc. ("IDA") in my DCF results; (6) the level of my ERPs and MRPs in my RPM and CAPM analyses; (7) my use of adjusted betas in the ECAPM model; and (8) my use of non-price regulated risk proxy group.

I have addressed critiques 1, 2, 3, 4, 6, 7 and 8 during the course of this rebuttal testimony. I will discuss Mr. Walters' remaining critique below.

Q. You excluded IDA's DCF results in your initial analysis because it was over two standard deviations below the DCF average result.[181] Is IDA's DCF result in your updated analysis within two standard deviations from the DCF average result?

A. Yes, it is. As such, Mr. Walters' concerns are no longer relevant.

VII. RESPONSE TO WALMART WITNESS CHRISS

D10-659

Q. Please summarize Mr. Chriss' testimony regarding Tampa Electric's ROE.

A. Mr. Chriss opposes Tampa Electric's proposed ROE based on his review of authorized ROEs nationwide and within Florida. He recommends the Commission "closely examine" Tampa Electric's proposed ROE:

> [I]n light of: (a) The customer impact of the resulting revenue requirement increases; (b) the use of a future test year, which reduces regulatory lag by allowing the utility to include the most current information in its rates at the time they will be in effect; (c) the high degree of revenue certainty realized by TECO through recovery of a substantial proportion of total retail revenues through cost recovery clauses; (d) recent rate case ROEs approved by the Commission; and (e) recent rate case ROEs approved by other commissions nationwide.[182]

However, Mr. Chriss did not undertake an independent, market-based analysis of Tampa Electric's ROE. As I discussed the relevance of parts (d) and (e) previously in this testimony, I will not repeat those discussions here.

Q. Should the Commission consider Tampa Electric's use of a

future test year ("FTY") or its cost recovery mechanisms in setting the ROE?

A. The Commission should consider Tampa Electric's test year and regulatory mechanisms relative to the proxy group used to derive its ROE.

Q. Does Tampa Electric's utilization of a FTY or cost recovery mechanisms affect its risk relative to your Utility Proxy Group?

A. No. As noted in my direct testimony, the *Hope* and *Bluefield* "Comparable Earnings" standard requires the allowed ROE to be commensurate with the returns on investments of similar risk. The cost of capital is a comparative exercise, so if the use of a FTY or cost recovery mechanism is common throughout the companies on which one bases their analyses, the comparative risk is zero; any effect of the perceived reduced risk of a FTY or cost recovery mechanism by investors would be reflected in the market data of the proxy group. To the extent the proxy companies utilize FTYs or cost recovery mechanisms only serve to make it more comparable to its peers and has no impact on comparative risk.

To that point, Document No. 18 provides a summary of the Utility Proxy Group operating companies that may utilize FTYs and cost recovery mechanisms like Tampa Electric. As Document No. 18 demonstrates, substantially all the proxy companies use a FTY or make known or measurable adjustments to their revenues and expenses. Likewise, the vast majority of Utility Proxy Group companies have similar cost recovery mechanisms to those present in Tampa Electric's rates.

VIII. RESPONSE TO FIPUG WITNESS POLLOCK

Q. Please summarize Mr. Pollock's testimony as it relates to Tampa Electric's ROE.

A. Mr. Pollock's opinion is that my recommended ROE of 11.50 percent exceeds the national average ROE for vertically integrated electric utilities for 2023 and 2024 of 9.78 percent.[183] Mr. Pollock also discusses Tampa Electric's regulatory environment and cost recovery mechanisms as justification for the Commission to authorize an ROE below the national average.[184] Like Mr. Chriss, Mr. Pollock does not undertake an independent, market-based analysis of Tampa Electric's ROE.

Q. Does Mr. Pollock make any unique argument from others you

have already addressed so far in your rebuttal testimony?

A. No. I have addressed the relevance of historical authorized ROEs for cost of capital purposes and the comparative nature of risk elsewhere in this testimony. I will not address these issues again here.

IX. RESPONSE TO FL RISING/LULAC WITNESS RÁBAGO

Q. Please summarize Mr. Rábago's testimony as it relates to Tampa Electric's ROE.

A. Mr. Rábago compares my requested ROE of 11.50 percent to historical ROEs from the last five and ten years stating my recommendation is "out of step" with those awarded ROEs.[185] Like Messrs. Chriss and Pollock, Mr. Rábago does not conduct an independent, market-based analysis of Tampa Electric's ROE, but nonetheless, recommends an ROE of no higher than 9.50 percent.[186]

Q. Mr. Rábago attempts to summarize your direct testimony into four arguments.[187] Do you believe his summary of your testimony is accurate?

A. No. Mr. Rábago's "summary" includes four points:[188]

(1) Interest rates and inflation were higher when this

rate application was filed than previously;

(2) TECO proposes to spend a lot of money;

(3) TECO should earn profits at levels that are indexed against those of unregulated companies; and

(4) TECO's profits should be inflated based on high risk based on extreme weather.

Regarding Mr. Rábago's first point, while interest rates and inflation are higher than in previous years, that data is reflected in the market data used to conduct cost of common equity models. I used the model results to inform my judgment as to the appropriate ROE for Tampa Electric at this time. Similarly, while I do generally rely on similar risk, non-price regulated companies in my analyses, I do not in this proceeding based on previous rulings by the Commission. This makes Mr. Rábago's summary point (3) inaccurate and incorrect.

As Mr. Rábago's summary points (1) and (3) are related, so are his points (2) and (4). These summary points reflect Tampa Electric's business risk, as represented by its fast growth and vulnerability to extreme weather. As discussed previously, and discussed by Mr. Walters, these business risks are reflected in Tampa Electric's bond rating, which is less risky than my Utility Proxy Group.

This results in a deduction in my recommended ROE, not an inflation of it. Again, Mr. Rábago's "summary" of my testimony is inaccurate and incorrect.

X. CONCLUSION

Q. Should any or all of the arguments made by the Opposing ROE Witnesses persuade the Commission to lower the return on common equity it approves for Tampa Electric below your recommendation?

A. No, they should not. My recommended cost of common equity of 11.50 percent for Tampa Electric will provide it with sufficient earnings to enable it to attract necessary new capital efficiently, and at a reasonable cost, to the benefit of both customers and investors.

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

BY MS. PONDER:

Q Mr. D'Ascendis, did you also prepare and cause to be filed with your direct testimony an exhibit marked DWD-1, consisting of 15 documents?

A Yes.

Q And did you also prepare and cause to be filed with your testimony an exhibit marked DWD-2, consisting of 19 documents?

A Yes.

MS. PONDER: Mr. Chairman, Tampa Electric would note for the record that Exhibits DWD-1 and DWD-2 have been identified on the CEL as Exhibits 28 and 148.

CHAIRMAN LA ROSA: Okay.

BY MS. PONDER:

Q Mr. D'Ascendis, would you please summarize your prepared direct and rebuttal testimony?

A Sure.

Good evening, Commissioners. Thank you for the opportunity to appear today.

My name is Dylan D'Ascendis. I am a partner at ScottMadden, Inc. The purpose of my testimony is to provide a recommendation regarding the return on common equity, referred to as ROE or cost of equity, for Tampa Electric Company, which I also refer to as TECO, as well

as provide an assessment of the company's capital structure to be used for ratemaking purposes.

Please note that I filed direct testimony and exhibit on behalf of TECO, as well as submitted rebuttal testimony to respond to the Florida Office of Public Counsel, or OPC, witness J. Randall Woolridge; Federal Executive Agencies, or FEA, witness Christopher C. Walters; Florida Retail Federation, or FRF, witness Stephen W. Chriss; Florida Industrial Power Users Group, or FIPUG, witness Jeffrey Pollock; and Florida Rising, League of United Latin American Citizens of Florida, or LULAC, witness Karl R. Rabago with respect to the company's ROE in this case. I will refer to those parties as the intervener ROE witnesses.

In view of current markets and the results of my analytical models presented in my testimony, the reasonable range of ROEs applicable to TECO is between 10.31 percent and 11.93 percent. And within that range, I recommend the Commission to authorize an ROE of 11.50 percent. My recommended ROE considers a variety of factors that affect the required return to the equity investors of the company.

My testimony discusses the multiple analytical approaches that were evaluated to develop my ROE recommendation. My testimony explains that no single

model is inherently so precise that it could be relied on to the exclusion of other theoretically sound models. Using multiple models adds reliability to the estimated common equity cost rate, and is supported in both the financial literature and regulatory precedent.

My testimony explains how the analysis to determine an appropriate ROE is affected by the various business and financial risks faced by the company. My ROE recommendation also considers such factors as effective flotation costs of the company's bond rating, as well as the company's high level of customer growth, weather risk, and capital investment plans relative to the companies in the proxy group.

The analyses presented in my testimony support the company's requested ratemaking capital structure, which includes a common equity ratio of 54 percent. That common equity ratio is consistent with the equity ratios maintained by the proxy groups and their operating utility subsidiary companies.

Finally, my testimony responds to the issues raised by and addresses the shortcomings within the intervener ROE witnesses' testimony. None of their arguments changed my conclusion that the company should be authorized an opportunity to earn an ROE of 11.50 percent. Likewise, their analysis should not persuade

the Commission to approve an ROE for TECO below my recommendation.

That concludes my summary.

MS. PONDER: We tender Mr. D'Ascendis for cross-examination.

CHAIRMAN LA ROSA: Great. Thank you.

OPC.

EXAMINATION

BY MS. CHRISTENSEN:

Q Good evening, Mr. D'Ascendis. How are you doing this evening?

A Doing well.

Q Okay. I would ask you to take a look at page -- well, let me start with this: You have testified or filed testimony in approximately 150 regulatory proceedings, correct?

A Yes.

Q And it would be true to say that in all those cases, you have testified on behalf of utilities, right?

A Yes.

Q Okay. Now, let me direct your attention to page 19 of your testimony.

A Yes, ma'am.

Q Okay. It looks like we are there as well.

In this section of your testimony, this is

where you start your discussion about capital structure, correct?

A Yes. The bottom of page 19, starting at line 22.

Q Okay. And am I correct that Tampa Electric is requesting a capital structure of 41.57 percent long-term debt and 54 percent equity?

A Common equity, yes.

Q Okay. And you use a proxy group to be representative of TECO, and the equity ratio and the return on equity it should receive, correct?

A Yes, ma'am.

Q And looking at page 23 of that testimony -- of your testimony, a few pages beyond this. And I am specifically at 918 of that portion.

A You mean lines nine through 18?

Q Hold on. Let me get there. Just a second.

I am specifically looking at line -- the sentence that starts at line 18. It says the equity ratios of your proxy group of companies range from 28.9 percent to 56.13 percent for the fiscal year 2022 --

A Yes, ma'am.

Q -- as shown on pages three and four of your Document 3, is that correct?

A That's right.

Q Okay. And would you agree, the simple average for the 14 companies in your proxy group is a 33 per -- 33.46 percent equity ratio, subject to check?

A Well, if you look at Document No. 3, page four of five, there is the simple -- the simple average of the proxy group companies is there. The common equity ratio -- the average, the simple average is 41.49. But my testimony states that the 54-percent equity ratio is within the range of capital structures maintained by the proxy group and their operating subsidiaries. So, like I said, it's appropriate because it is representative of an electric utility company.

Q Okay. And I just want to make sure that I heard you correctly. So the simple average, which you said you calculated, is actually 44 percent for the proxy group?

A No, ma'am. So it would be Bates number, I guess, 107.

Q I am sorry, which page are you looking at?

A So if you look at Document No. 3, page four --

Q Okay.

A -- and you go down to the bottom, it says, proxy group of 14 electric utility companies. And you will see the average of the 14 utility companies, and it's 55 percent -- 55.3 percent long-term debt, 2.72

percent short-term debt, 0.49 percent preferred stock, and 41.49 common equity. Do you see it?

Q Well, that's what I am trying to see, which -- I see -- okay. I see it.

A It's up there.

Q All right. Yes, I am seeing that now. And that's divided by years, correct?

A So that's -- so if you look at the top row of that schedule, you will see it's 2022, 2021. So that -- what I was looking at there, for 2022, is that number.

Q Okay. You were just looking at 2022, because the five-year average for the proxy group would be 53.4 percent?

A The long-term ratio -- the long-term debt ratio is 53.4 percent. Yes.

Q And then the long-term -- or the five-year average for the common equity is 43.26 percent, correct?

A That's right.

Q Okay. And you would agree, based on this average that we have looked at on page four out of five, the only company -- well, actually, let me take you to page three of this exhibit. And the only company that I see that has a higher equity ratio than Tampa Electric is IDACORP, which has a equity ratio of 56 percent; is that correct?

A That's correct. And like I said, my testimony is that it's consistent with the range, and then if you -- of both the holding companies and the operating subsidiary companies of the proxy group companies.

So if you take a look at page five of five of that document, you will see that a lot of the operating companies are in that low 50 -- low 50 to mid-50 range.

Q But these were the proxy group companies that you actually chose as representative, correct?

A Well, the issue with using operating subsidiary companies in an ROE analysis is that you can't use them because they don't have any market data. So in an ideal world, you would have publicly traded operating utility companies to do your ROE analysis, but in this case, you have to use these holding companies.

The more appropriate proxy, when you are looking at the appropriate capital structure, would be the operating subsidiaries. But any way you slice it, so if you are using holding companies, or if you are using --

MS. CHRISTENSEN: Commissioners, can I just ask that we answer the question I asked, which is this was the proxy group that he chose. That was the question.

CHAIRMAN LA ROSA: Yeah. If you have got a

sufficient answer to the question, then let's move on to the next question.

MS. CHRISTENSEN: Thank you.

BY MS. CHRISTENSEN:

Q Conversely, the lower the percentage of the debt the company has in its capital structure, the lower the return on equity or exposure to financial risk the common equity investors expect, correct?

A Can you repeat that, please?

Q Sure. Well, let me ask you this first: Would you agree that the higher the percentage of the debt in the capital structure, the higher the financial risk to common equity owners, and they would expect a higher return on common equity for bearing this higher financial risk?

A Agree.

Q Okay. Conversely, the lower the percentage of debt the company has in its capital structure, the lower the return on equity for exposure to financial risk the common equity investor would expect?

A And this is all else equal, correct?

Q Everything being all equal -- or all else being equal, yes.

A Then I would agree with you.

Q Okay. Now, looking at your Document 1 -- your

Exhibit 1, Document 2 -- and let's see when we get there.

Okay. Now, this shows the models that you used for prepare -- excuse me, preparation of your recommended ROE, correct?

A Yes, ma'am. It was superseded in my Exhibit DWD-2, but my initial analysis is what you are referring to.

Q Okay. In other words, these are the four models that you used, even with your updated results, correct?

A With the caveat that I didn't -- I didn't rely on the nonregulated proxy group in this case, nor did I rely on the PRPM in this case --

Q Okay. And --

A -- which is the Predictive Risk Premium Model, just for the --

Q Okay. And we will get to that in just a second.

And in this case, you are recommending an ROE of 11.5, is that still correct?

A That's right.

Q And you are recommending the 11.5 ROE despite the company's proposed capital structure and debt cost, correct?

A Despite? So I am going to disagree with your question. But if you are looking at DWD-1 or DWD-2, Schedule 2 or Document 2, you take -- the first thing you do is you look at your model results, and then you compare them with -- you compare TECO with the proxy group company to figure out whether or not they have extraordinary risk or not.

So when you look at lines six and seven on Document No. 2, page one, you will see that the credit risk adjustment on line six is a negative risk adjustment based on bond spreads.

Credit ratings is a common measurement of both business and financial risk. So any type of lower financial risk that the company has, like a higher equity ratio, would be subsumed in that adjustment.

Q Okay. But you would agree that the negative credit risk adjustment is your adjustment because TECO is less risky than the proxy group that you chose, correct?

A As far as credit risk, yes.

Q In this document, you report two results for each of your approaches, is that correct?

A Yes. One is -- one includes the Predictive Risk Premium Model, or the PRPM, and one excludes it.

Q Okay. Now, looking at the column which shows

the results with the PRPM, which the Commission rejected previously because -- you would agree that this commission previously rejected the PRPM approach because the results could not be duplicated, correct?

A I don't agree with that characterization. I have given the Commission staff ample opportunity, and the OPC ample opportunity, to access my model, and they haven't taken it up on me -- or taken it -- taken me up on it in the Peoples case or in this case.

Q Okay. But that wasn't the question. The question was whether or not the Commission rejected it previously, because the Commission said they could not duplicate the results, is that correct?

A You are going to have to point me to the order that says that.

Q Okay. Well, we can move on from that.

But looking at your range of results, line five, indicative common equity cost rate before adjustments. And then if you look further down, indicated common equity cost rate after adjustments. Those are your ranges based on the four predictive models, correct?

A No. So if you take a look -- and I have it in my testimony, but I am just going to point to this document instead.

If you look at line number five, it is the low number on -- which is the DCF model, and the high model from the CAPM model. It does not contemplate or use the fourth line, which is the market models applied to common comparable risk non-price regulated companies. So it's the three models, the DCF, the Risk Premium Model, and the Capital Asset Pricing Model.

Q Okay. With that caveat, that the market models applied to comparable risk, non-price regulated companies were excluded from that range, and those -- that range of results on line 5, and then further down on line eight with your other adjustments, those would be the results from the three models, correct?

A Yes, ma'am.

Q And that range without the PRMP is -- and with your adjustments, would be 9.9 to 12.42, correct?

A Yes, ma'am.

Q And isn't it true that your recommended ROE of 11.5 is higher than the middle of this range, which would otherwise have been 11.16.

A It is, but I explained the reason why I went above the midpoint in my range in my rebuttal testimony. And I think it would be easier just to show you guys on the graph, if you would turn to Exhibit DWD-2, which is my rebuttal exhibit document --

MS. CHRISTENSEN: Commissioner, I would appreciate if he would just say yes or no to the question and a brief explanation to the question that I asked and not go beyond that. And if his --

CHAIRMAN LA ROSA: Okay. Was the answer sufficient?

MS. CHRISTENSEN: Yes. I got a sufficient answer. Thank you.

CHAIRMAN LA ROSA: Okay.

THE WITNESS: Well, I disagree, because you asked whether -- how it was, and I am explaining why it was.

MS. CHRISTENSEN: I am going to object to the witness objecting to my question.

CHAIRMAN LA ROSA: Okay. Let's move on to the next question. I am not sure I have seen that before, but let's move on to the next question.

MS. CHRISTENSEN: Thank you.

BY MS. CHRISTENSEN:

Q Would you agree that you include a flotation cost adjustment in this range?

A Yes, ma'am.

Q Thank you.

And would you agree that TECO has not paid any flotation cost?

A I don't agree with that.

Q Okay. Does TECO issue stock?

A So they do not, but when you are talking about flotation costs, the equity that's infused by -- from Emera to TECO has flotation costs, and they have to be returned back to Emera or they won't be able to attract the capital that they are supposed to.

Q So the answer to my question is, no, TECO does not issue stock; correct?

A Yes. But when you are talking about the recovery of the cost of capital, you have to recover the flotation costs from the parent company, because if you do not, they will not get their full return on their investment.

Q Okay. So in other words, the flotation costs that you included in TECO's costs here are costs that Emera has for issuing stock on Emera's behalf, correct?

A Say it one more time.

Q The flotation costs which you are including in this TECO ROE as an adjustment is a cost that's borne by Emera when Emera issues its stock?

A Well, when you are talking about --

Q Correct?

A Not exactly. Okay. So when TECO issues their stock, they incur a cost. When that -- and it's in the

form of a percent. So if you take a look -- and this is where we are -- where I have to explain this.

So if you look at Document No. 11 -- 9, page one, you will see the Emera issuances. And those issuances, like I said, at Document 9, page one of one. So the flotation costs are expressed in a percent. So it's -- so it's point -- it's two percent of what their net proceeds are. Now --

MS. CHRISTENSEN: Who's -- can I ask a question and get him to answer yes or no, and --

CHAIRMAN LA ROSA: Yep. Please restate the question.

MS. CHRISTENSEN: Okay.

BY MS. CHRISTENSEN:

Q Is it correct that it is Emera issuing stock at the Emera level? Yes or no?

A Yes.

Q Thank you. I will move on.

Okay. The highest ROE is 12.9 percent for your nonregulated group, correct?

A It's 12.95.

Q 95, okay. And I think you had confirmed this before, but you did not include that in your range, correct?

A I did not.

Q Okay. And looking at Document 3, your Discounted Cash Flow Model, that result is 9.89 percent, correct?

A But it's superseded by my rebuttal testimony, and that result is 10.29 percent. So if you look at DWD-2, Document 1, page one, the Discounted Cash Flow Model for that -- for the same group of companies, just using updated data, is 10.29 percent.

Q Okay. And this model, the Discounted Cash Flow Model, does not require you to estimate risk, correct?

A Well, I mean, the risk is reflected in the stock prices, which runs into the -- in the dividend yield. So I am not estimating risk, but risk is reflected in the stock price in the market data used to calculate the model.

Q Okay. So I believe your answer to my question is, yes, you did not estimate risk, correct, using the Discounted Cash Flow Model?

A Every -- so the point of every cost of capital model is to re -- to get a measure of risk to have a return on that risk. So in that aspect, the answer is yes.

Q Okay. Well, in the -- and your two highest ROE results are for your risk premium model and the CAPM

approaches, is that correct?

A Yes.

Q And in both of those approaches, you had to estimate a risk premium to derive a recommended ROE, is that correct?

A Yes.

Q And you would agree that the 30-year treasury is about 4.61 percent, is that still current?

A It is not.

Q Okay. And what is the current 30-year treasury yield, if you know of, as of today?

A I think it's around 4.2, but --

Q Okay.

A -- generally, Mr. Walters and I used projected interest rates, and Dr. Woolridge uses a normalized interest rate generally, so --

Q Okay.

A -- so it's not -- the current interest rate sometimes isn't as accurate or applicable as those other ones.

Q But you would agree that the 30-year treasury yield is down from about five percent earlier this year, correct?

A Yes. But it's up from one percent in the pandemic.

Q And isn't it true that you have included a credit risk adjustment for your ROE, correct?

A That's right.

Q Okay. Let me -- would you have any reason to disagree with me if I put it to you that a 10.3-percent -- well, let me ask you this: Are you aware that the Commission has recently approved a 10.3 ROE for Duke Energy operating in Florida?

MS. PONDER: Mr. Chairman, objection. Same objection as earlier in the proceeding.

CHAIRMAN LA ROSA: Yeah, sustained. I prefer not to make the comparison.

MS. CHRISTENSEN: Okay. Let me ask if I can have the witness look at OPC-96, which is F2.1-6124. And this is OPC's exhibit of the RR inventory of awarded and historic ROEs, and --

MS. PONDER: Mr. Chairman, I would object to this exhibit as showing out-of-state decisions that are irrelevant in this matter. The request of other utilities and decisions by other commissions --

MS. CHRISTENSEN: Well --

MS. PONDER: -- are not the kind of information this commission typically considers in determining ROE.

MS. CHRISTENSEN: May I respond?

CHAIRMAN LA ROSA: Yes. Let me hear from OPC.

MS. CHRISTENSEN: All right. One, I think we have already admitted the exhibit. Two, the gentleman is actually estimating ROEs based on what the market will actually hold and approve, and what type of competition for capital that TECO would have to be up against. So, in fact, the approved ROEs around the country is extremely relevant information for this commission to have. And he is their ROE witness, so he would be the ROE person to ask about this information, and, you know, so I think it is highly relevant.

CHAIRMAN LA ROSA: And this exhibit was entered into the record, if I am not mistaken. But I will look to my Advisor for this.

MS. HELTON: This is the exhibit that Mr. Wahlen took issue with --

MS. CHRISTENSEN: And I think it was admitted over his objection.

MS. HELTON: Yes.

MS. CHRISTENSEN: Thank you.

Could I approach the witness and provide him a copy of this and find out if he is familiar with the information?

CHAIRMAN LA ROSA: Hold on one second.

MS. HELTON: Could we have a couple minutes to confer with the staff who deals with this on a regular basis, and that would not be me, so that we could --

CHAIRMAN LA ROSA: Sure. Absolutely. Let's take three minutes.

(Brief recess.)

CHAIRMAN LA ROSA: Okay. Just rehash a little bit of all discussion. Let's reconvene, and I am going to go to Mary Anne on what we just discussed.

MS. HELTON: Thank you, Mr. Chairman.

My suggestion is to go forward, allow Ms. Christensen to ask a couple of questions, and from there, we can -- I think you can determine, and the company can determine whether we think that the questions are relevant to this proceeding and the way this commission sets the ROE based on the filings that have been made in the docket.

CHAIRMAN LA ROSA: Okay.

MS. CHRISTENSEN: Commissioner, may I be briefly heard?

CHAIRMAN LA ROSA: Yes.

MS. CHRISTENSEN: Okay. And just for the record, in Order No. PSC-2023-0388-FOF, the PSC

Peoples Gas rate proceeding on page 71, in the conclusion, staff indicated that it relied on -- or the Commission -- and I am sorry, not staff, but the Commission relied on the national average of awarded ROEs of approximately 9.5 percent, and said -- and should be -- should enable PGS to generate cash flow needed to meet their near-term financial obligations and make the capital investments needed to maintain and expand its systems, maintain sufficient levels of liquidity to fund unexpected events, and sustain confidence in Florida's regulatory environment among the credit agencies and investors.

So this is the type of information that this commission has relied on in the past to make a recommendation on ROE, and to place that in its order. So I would say suggest that this is highly relevant information.

I am sure if the Commission -- if the company believes that, you know, we are being repetitive, they can certainly make whatever appropriate objections they think at the time, but I think I should be given the leeway necessary to explore this relevant information.

Thank you.

MR. WAHLEN: Mr. Chairman, I will respond by saying this is in the record. If we want to spend the next three hours having our witness questioned about this exhibit and whatever other information they have about other states, I guess we can do that. But we are trying to move this thing along. I know it doesn't feel like it, because we are bogged down, but the Commission has historically relied primarily on the models, and the models are not based on awarded returns or requested returns.

But this is in the record. I just don't -- I hope we don't have to go line-by-line through every one of these decisions and talk about it. I was asked yesterday to object early, so that's what we are doing.

Thank you.

CHAIRMAN LA ROSA: Okay. So I am going to allow the questions to start. We will take the direction and see how relevant they are in comparison, and, of course, how the witness answers. So I will allow the questions to begin.

MS. CHRISTENSEN: May I approach the witness to give him the larger copy --

CHAIRMAN LA ROSA: Yes.

MS. CHRISTENSEN: -- because I think it's hard

to read. Thank you.

BY MS. CHRISTENSEN:

Q Mr. D'Ascendis, are you familiar with S&P's Capital IQ rate history information?

A Yes.

Q Okay. And you would agree, this is a summary of awarded and pending ROEs prepared by S&P., and otherwise, you are generally familiar with the content, correct?

A This looks like past ROEs. I haven't gotten through the entire document yet. Is there pending ROEs further down?

Q Okay. Looking at page, I think it is -- I am going to say the last page of the document, this lists pending cases. Do you see that?

A Sure.

Q Okay. And there is cases listed there for Pennsylvania Electric, Pennsylvania Power, West Penn Power. Do you see those?

A You mean the next to the last page. Yes.

Q Yeah. Oh, I am sorry. Next to the last page.

Okay. And do you see that there is a request for an 11.3 percent ROE in those cases, correct?

A Yes. I am the witness in that case.

Q Okay. And then you confirmed what I was about

to ask you. So you are the witness in those cases?

A I am.

Q And are you also the witness in the PepsiCo Energy case, which also is showing an 11.3?

A You mean the PECO case?

Q Yeah. Oh, sorry. PECO.

A No.

Q Okay. Do you know Paul Moul?

A Professionally, yes.

Q Okay. And are you closely allied with him in providing these ROEs on behalf of the utilities, right?

A I disagree with everything you just said.

Q Okay. In 2021, did you adopt his testimony in a Kentucky rate case?

A A what rate case?

Q Kentucky rate case.

A He was -- he was in a coma, and the company reached out for me to do -- what was it? It was discovery responses. So, no, I didn't -- I didn't adopt his testimony. I didn't defend it in the case. I -- while he was in the hospital recovering, I was -- I did the right thing to do, and do responses to discovery for somebody for a client that I -- that we share.

Q Okay. One moment, please.

Okay. I think that may be all the questions I

have for this exhibit. There may be others, but for me, that's -- that will take care of that one.

Sure. Okay. And are we ready again?

A Yes.

Q Okay. Great.

Would you agree that the Florida Commission has made ROE awards in the last two to three years that are higher than the national average?

A Yes. And I would like to take a little bit of time and talk about that Peoples Gas order.

MS. CHRISTENSEN: I am going to object. This is going well beyond -- I didn't even ask him the question.

CHAIRMAN LA ROSA: Go ahead and continue with your questions.

BY MS. CHRISTENSEN:

Q And would you agree that Dr. Woolridge has recommended an ROE of 9.5 for TECO?

A Yes, in this case, yes.

Q Okay. And isn't it true, on page nine of your direct testimony, line 14, you acknowledge that authorized ROEs are -- or, I am sorry, this is actually on your rebuttal testimony. Page nine of your rebuttal testimony.

A Yes, ma'am. I am there.

Q Okay. And looking at line 14, would you agree that you acknowledge that authorized ROEs are reasonable benchmarks of acceptable ROEs, correct?

A They do. And then the end of that sentence says: They do not reflect the current cost of common equity.

Q Okay. And then if you go to the top of the next page, you then claim that simple comparisons of ROEs to previously and recently awarded ROEs of little value, correct?

A Yes, ma'am, because they are not timely. They are not -- they don't reflect the risks of the specific companies involved. Some of these -- some of these -- if we want to go back to this piece here, when you could take a look and see --

Q I think --

A -- that you have companies that start their -- they start their rate case in 2020, and they don't get -- they don't get resolved until 2022 or 2023. So the data, even though it might seem recent, is not recent or timely. And even the -- even the time between --

MS. CHRISTENSEN: Commissioner, I think we have gone a little far afield --

THE WITNESS: -- the rebuttal and now --

MS. CHRISTENSEN: -- the question I asked.

CHAIRMAN LA ROSA: Yeah. I don't know that the question was a yes or no question. I think that's where the challenge was, but please continue with your questions.

MS. CHRISTENSEN: Okay.

BY MS. CHRISTENSEN:

Q And do you know what the most recently authorized ROE by this Commission was?

A Fully litigated?

Q No. Settled.

MS. PONDER: Objection.

CHAIRMAN LA ROSA: Sustained.

MS. CHRISTENSEN: Hold on. Can I have just a moment, please?

CHAIRMAN LA ROSA: Sure. Let's take two minutes.

(Brief recess.)

MR. REHWINKEL: Mr. Chairman.

CHAIRMAN LA ROSA: Yes, sir.

MR. REHWINKEL: We -- Public Counsel is in a difficult spot.

CHAIRMAN LA ROSA: Okay.

MR. REHWINKEL: We asked a question. We were given an answer. We have a document from the State of Kentucky, an order, that shows that the witness'

statement was inconsistent with the State of Kentucky's order, and we have no way, because of Case Center, of impeaching the witness. And we have advised counsel for the company about the situation. And it's a serious matter, we need to get to the bottom of it.

MR. WAHLEN: I have talked to Mr. D'Ascendis. We are happy to have them read the order to him. He can answer if he thinks that's what happened. This is not a big deal to us. We are not going to get hung up on whether the document is in Case Center. They can read it to him. They can show it to him, and he can talk about it.

MR. REHWINKEL: Well, we heard testimony under oath that Mr. D'Ascendis did not adopt testimony of Mr. Moul, and when he did that, we abandoned a line of questioning about 321. But I think that Ms. Christensen is entitled to review this. We may -- I don't know if it's possible here to get a court reporter to read the question back. This is a serious matter.

CHAIRMAN LA ROSA: Go ahead, Mr. Wahlen.

MR. WAHLEN: I have suggested that they just ask him about the order and then see what happens.

CHAIRMAN LA ROSA: Sure. All right. So I

understand both sides. I am going to go to my Advisor for -- from a procedural side -- from a procedural position.

MS. HELTON: Well, Mr. Wahlen, as I understand it, has offered to allow cross-examination of the witness about the order from Kentucky. And if that's agreeable to OPC, it seems to me that we could go forward on -- that way. Do we need to stop and make a couple of copies of the order for people to have it?

MR. REHWINKEL: I think that's what we need to do.

MS. HELTON: Okay.

CHAIRMAN LA ROSA: Just so we are sure, so procedurally, they are going to make copies. They are going to distribute --

MS. HELTON: Yeah.

CHAIRMAN LA ROSA: -- those copies?

MS. HELTON: I think -- I think.

CHAIRMAN LA ROSA: Is there anything else we need to do?

MS. CHRISTENSEN: Commissioner, could we, like, have a five-, 10-minute break, and we should be able to make the copies and then we can get back to this?

CHAIRMAN LA ROSA: Yes. But before we do that, I just want to make sure. Is there anything else that we need to do to instruct during this timeout?

MS. HELTON: Not that I am aware of, Mr. Chairman.

CHAIRMAN LA ROSA: Okay.

MS. HELTON: I am not sure if anybody else has a suggestion.

CHAIRMAN LA ROSA: So let's take five minutes. When the copies are ready, we will reconvene. Hopefully that's in five minutes, and then we will go from there. Thank you.

MS. CHRISTENSEN: Certainly. Thank you.

(Brief recess.)

CHAIRMAN LA ROSA: We should be back on.

MS. CHRISTENSEN: Yes, we are good.

CHAIRMAN LA ROSA: Okay. All right. Let's -- yeah, let's reconvene here.

So I will go to OPC. You handed out some paperwork?

MS. CHRISTENSEN: Yes, we did. And once we are ready to roll --

MR. WAHLEN: Before we get started, we are getting a couple other items printed out that are

relevant to this --

CHAIRMAN LA ROSA: Okay.

MR. WAHLEN: -- and I don't know if you want to wait for all of it.

CHAIRMAN LA ROSA: Well, I do, because I don't want to have to stop again, so sure. How far along are we in that process, if it's even possible to gauge that?

MR. WAHLEN: I am not sure who is doing the printing, but hold on.

CHAIRMAN LA ROSA: But it's being printed? I think that --

MR. WAHLEN: Yes, it is being printed.

CHAIRMAN LA ROSA: So let's hold tight and not go too far. And we will reconvene once everything is back in our hands.

MS. CHRISTENSEN: Commissioner, they may have their copies ready by the time redirect is up, and he can introduce those as part of his redirect, and we can continue to move along, if that's the Chairman's wish.

CHAIRMAN LA ROSA: Okay. Let's still hold for a few seconds, but I may take you up on that.

(Brief recess.)

CHAIRMAN LA ROSA: Okay. So let's go ahead

and get started. There is something being printed, some hurdles in the backroom, but we should have them shortly.

So, Ms. Christensen, we were about to start to talk about what you had handed out.

MS. CHRISTENSEN: Thank you.

BY MS. CHRISTENSEN:

Q Mr. D'Ascendis, have you had an opportunity, or have you had a conversation with your attorney about the order that I am about to show you, in the break?

CHAIRMAN LA ROSA: Give me -- yeah.

BY MS. CHRISTENSEN:

Q I am sorry?

A Yes.

MS. CHRISTENSEN: Okay. And for clarification of the record, can we ask that the court reporter read back the question regarding the Kentucky and the adoption of testimony in Kentucky and your response?

CHAIRMAN LA ROSA: Yeah, let's -- I am going to ask court reporter, is that possible? We may have to give her a little bit of direction of where that is. Okay. How far back, Ms. Christensen?

MS. CHRISTENSEN: I think she can -- I don't think it was too far back, because we were --

CHAIRMAN LA ROSA: I would say in the last two to three minutes?

MS. CHRISTENSEN: Yeah. I will give her a minute to find it.

CHAIRMAN LA ROSA: Take your time, please.

MS. CHRISTENSEN: So if you can play back the question and the response, that would be helpful. Thank you.

(Whereupon, the requested portion of the audio-recorded record was played back by the digital court reporter.)

MS. CHRISTENSEN: Thank you, Madam Court Reporter.

BY MS. CHRISTENSEN:

Q Mr. D'Ascendis, do you see the order from the Commonwealth of Kentucky in the matter of Electronic Application of Delta Natural Gas Company, Inc., for an adjustment in its rates and certificate of public convenience and necessity, Case No. 2021-00185?

A I do.

Q Can you read the second paragraph of that order on the first page?

A Sure.

In support of its motion, Delta explains that it learned on July 20th, 2021, that one of its

witnesses, Mr. Paul Moul, was in a serious bicycle accident that prohibits him from completing responses by July 28th, 2021. Further, Delta states that it has engaged Mr. Dylan D'Ascendis, who has adopted Mr. Moul's direct testimony to respond to the items for which it seeks an extension of time.

Q Okay. Thank you.

Now, let me refer you back to OPC Exhibit 96, which is the list of the RRA comparative.

Do you see, on that second to last page, where it says, Pennsylvania, Duquesne Light Company?

A Yes, ma'am. Well, not yet, but --

Q Let me know when you get there.

A I am sure it's -- I am sure it's there. Yes.

Q Okay. And do you see the 11.5 percent there?

A Yes, ma'am.

Q Okay. Is that Mr. Moul's testimony in that case where he is seeking an 11.5 ROE?

A I don't know.

Q Okay. Fair enough. Thank you.

MS. CHRISTENSEN: I have no further questions.

CHAIRMAN LA ROSA: Okay. Great. Let's move to Florida Rising/LULAC.

MS. CHRISTENSEN: Commissioner, can I get the order marked for identification, or given an

identification number for me to move it into evidence at the completion of his testimony?

CHAIRMAN LA ROSA: Yeah. Let's give it a number. I am going to have to ask my staff for a little bit of help on what number we are at.

MS. HELTON: Mr. Chairman, I think that would be 839.

CHAIRMAN LA ROSA: 839. So see that it is 839.

MS. CHRISTENSEN: Thank you.

(Whereupon, Exhibit No. 839 was marked for identification.)

CHAIRMAN LA ROSA: All right. Moving on to Florida Rising and LULAC.

MR. MARSHALL: Thank you, Mr. Chairman.

EXAMINATION

BY MR. MARSHALL:

Q Good evening.

A Good evening.

Q If I could direct your attention to master number E3443.

A I don't know what that is.

Q It should flash up on your screen. And this is from admitted exhibit staff 177.

And so this document contains the reference

documents for your testimony, is that right?

A Okay.

Q And the specific one that we are looking at would be the S&P Global Ratings Score Snapshot.

A Okay.

Q And if you look at the bottom of the page, it gives a key strength for Tampa Electric Company, and it says that Tampa Electric Company is a low risk utility; is that right?

A Yes. It's the same description it gives to every single utility company that it covers.

Q And as a key risk, it says that very large capital programs over the next several years will pressure credit metrics?

A Yes, sir.

Q And if I can direct your attention to two pages later, if you can scroll down.

A That's 23632 on the bottom?

Q Yes. That's correct.

A Okay.

Q And it says that, quote: The negative outlook on TEC reflects the negative outlook of its parent, Emera, Inc. The negative outlook on Emera reflects its current minimal financial cushion from its downgrade threshold and the possibility that financial measures

could weaken further if regulatory risk persists?

A Yes, sir.

Q And then if I could direct your attention to master number E3454 within that same document.

A You said E3454?

Q Yes.

A Okay.

Q And this would be Moody's Credit Opinion for TECO from December of 2023?

A Okay.

Q And if I could direct your attention to the last paragraph of that page.

A It starts with, Tampa Electric's credit rating is constrained?

Q Yep.

A Okay.

Q And it says that Tampa Electric's credit rating is constrained by the weak credit profile of parent company Emera, Inc. The high debt load puts financial pressure on all of Emera's subsidiaries, most notably Tampa Electric. As such, Emera may rely more heavily on Tampa Electric, and will potentially need the utility to upstream dividends to service high parent company debt and other obligations?

A Okay.

Q Did I read that correctly?

A Yes.

Q And if I could direct your attention next to master number E3459. So this is just a few pages down as part of that same document.

A Yes.

Q And it says, under the second heading, that Emera issued a significant amount of debt and subordinated hybrid notes to finance its acquisition of TECO Energy in 2016, and has since been trying to reduce holding company leverage; is that right?

A Yes, sir.

Q You are not aware of any time that you have recommended a lower return on equity as compared to a company's then existing return on equity?

A I am not aware.

Q And as far as you are aware of Emera's regulated subsidiaries, their authorized return is highest at TECO?

A Based on the trigger mechanism, yes, by five basis points.

Q And then that's -- yeah, and that's at TECO's current authorized rate of return?

A That's right.

Q And to be clear, your proposal is that TECO's

ROE should be increased from 10.2 percent to 11.5 percent?

A Yes, based on my analysis.

Q You would agree that Canada generally has lower ROEs than the United States?

A Generally.

Q And you believe that's part of the reason Emera has invested in American utility companies, including TECO, because they provide an opportunity for higher return as compared to, for example, Nova Scotia Power?

A Yes. This was all in my deposition. We were talking about how Emera and other Canadian companies like Algonquin have invested in American companies because, generally, the risk is the same, but the return is higher in America. And given just basic financial precepts, you are going to spend money where you could get the highest return.

Q And other than in Alaska, you are not aware of any other utilities being awarded a return of 11.5 percent or higher, is that right, in the last few years?

A Not aware. But like I said, we use, generally, the RRA stuff and, and they don't have a entire picture of ROEs, and it's usually the smaller companies. But generally, no, not of this size.

Q And just to clarify your testimony, you are not offering an opinion on whether TECO's customer costs, or their service, are reasonable, correct?

A Right. I am just -- my testimony is the appropriate rate of return that investors require on inve -- equity investors require in TECO.

Q Thank you.

MR. MARSHALL: That's all my questions, Mr. Chairman.

CHAIRMAN LA ROSA: Great. Thank you.

FIPUG.

EXAMINATION

BY MR. MOYLE:

Q Thank you. I have a handful of questions.

I would like to refer the witness, if I could, just briefly. FIPUG also has a chart that they ave used that Mr. Pollock is going to talk about tomorrow. It's not been admitted yet, but it is C27-2859.

A Excuse me -- excuse me. Is that in his direct testimony?

Q It is.

CHAIRMAN LA ROSA: Yeah. It's about to be pulled up in the screen in front of you.

THE WITNESS: Okay.

BY MR. MOYLE:

Q And it's a two-page chart, so there is -- the first page is page one of two.

A Okay. I am there.

Q And then the second page, if the screen can be scrolled down. That's the second page. I know you briefly looked at the first page. Do you see any cases in there that you testified --

A That I testified?

Q -- on the first page?

A Louisiana Southwestern Electric Power Company.

Q That's number five?

A Yeah, number five. Number nine. I don't know if that one is -- maybe number 20. I did testify for Duke Energy Kentucky. I don't know if it's the recent one or not. 21. And then if we go on the next page, 50.

Q 50?

A Yep.

Q All right. And what Mr. Pollock did is, similar to that other exhibit that was out there, where he just has gone back and looked for the last couple of years and looked at the ROEs that have been awarded and has calculated an average for 2023 of 9.8, and an average for 2024 of 9.72; is that right?

A That's right.

Q Okay. And I assume, in those cases that you identified that you testified about, all of those, I think with one exception, number eight, the California case, they all ended up at a single-digit ROE; is that right?

A Yes. So there were some gas cases and some water cases that were over 10, but they are obviously not in this list.

Q Okay. And I just -- I want to spend a moment and just talk about what, you know, what has been done here. I mean, I think Walmart has a similar approach to it. And I asked the president yesterday whether this type of information -- you know, there is a lot of comparisons being made -- this type of information of a comparison is probative and meaningful, in his view. He said yes.

Do you similarly agree that this can be used as an approach to ROE, given that, if I read your testimony, you have three approaches to ROE. So it's, you know, different ways of maybe getting to a similar point. But that was -- that's a long-winded question, but if you can answer it, I would appreciate it.

A Sure. So I will start with no, and it's -- and it's because of a couple things that I said earlier. It's not timely. There is different companies with

different type of circumstances. And all you have to do is look at the Peoples Gas order and what the Commission did in that case. And they ran their models. They looked at the companies. They looked at the proxy group. They looked at the companies. They looked at the models, and then they made the determination.

And when they -- and Ms. Christensen was right when she read her order, but they didn't adjust their model results up or down based on what the average was. So it might be a guidepost. But like the Commission has done so much in the past, and what they should continue to do, is to follow the models, because the models are what's the market.

The outcomes of rate cases are results of things like this, where I am putting the -- I have my number, Dr. Woolridge has his number, Mr. Walters has his number, and it's up for the Commission and the Commission staff to kind of balance those interests.

My opinion is that the ROE is 11.5 percent. Obviously, a lot of the other parties don't have that. But when you are talking about using that as market data, it's not because it doesn't move with market rates, right? Like when the stock price changes, your DCF changes. When the beta changes, the CAPM changes. When interest rate changes, the CAPM changes. These are

stuck in the mud.

So there is a lot of different things why you don't use authorized returns directly as a measure of an ROE. And correctly, the -- neither does the staff of the Florida Commission.

Q That's your opinion, correct?

A Yes, it is.

Q Right. And you are aware others have different opinions than you do with respect to the ability to use state average returns, correct?

A I mean, the --

Q Yes? No?

A No, because the witnesses that are expert witnesses, and they do these types of things, Dr. Woolridge has his models. He doesn't use authorized returns, and neither does Mr. Walters, and neither does Mr. Garrett before him. None of the witnesses that calculate ROEs use authorized returns as their number as opposed to some of the -- some of the other intervener witnesses kind of say, it's not high or low. Like, Mr. Chriss, he doesn't say what number he wants. He just says that they caution you about one thing or another --

Q Yeah. Let me ask you this --

A -- or Mr. Pollock, same thing.

Q -- the five cases that you testified in here,

did they all go through the process that you are describing with, you know, CAP -- CAPM, the models that you use, just for the record, the Discounted Cash Flow Model, the Risk Premium Model, the Capital Asset Pricing Model, did you provide that testimony in the five that you referenced here?

A Yes. But can you bring it up so I could -- because if it's settled, obviously, it's based on other things, but I don't know which ones out of the five were settled. So if you could bring that exhibit up again, I will be able to --

Q Well, there is nothing on it that tells you whether they were or they weren't.

A Well, I could -- once I figure it out.

Q Let's -- it's getting late --

A Yeah. I mean, the -- most of them are settlements --

Q Here's a question for you: With respect to the ability, if these -- all these states do these things with these three approaches, and this is a high level document that just says, well, they ave done all the work, here's where their rates are, that's a way in which you could determine relevant information, you would agree with that?

A I don't, because like I said --

Q Okay. That's -- you just don't, that's fine.

A Yeah. I don't --

Q I don't --

A -- for the reasons --

MR. MOYLE: Mr. Chair --

THE WITNESS: -- why I said it already.

CHAIRMAN LA ROSA: If you are satisfied with the answer, that's satisfactory.

BY MR. MOYLE:

Q Were you here today when, or did you listen to the TECO witness talking about how Duke establishes their salaries?

A Which witness? I don't think so.

Q I am sorry, TECO. I said Duke my -- that's what happens when you have two rate cases going on the same time.

There was a witness today from TECO who talked about how TECO establishes their salaries. Were you here for that?

A No.

Q Okay. Do you know that some utilities will use a median as a way for establishing salaries?

A Say it again.

Q Some utilities will use a median. They will look at their other utilities and say, what's the median

price that other utilities are paying executives and others for a way of making a decision?

A Right --

MR. WAHLEN: I am going to object. This is not relevant to return on equity. It may be relevant to how you do compensation, but it has nothing to do --

CHAIRMAN LA ROSA: No, I understand. I will ask the question, is this question related to ROE?

MR. MOYLE: Well, I think the point is, is that, you know, earlier we have a witness who is doing a comparison with the median. This is a comparison of the median. It's the same thing. Just make -- that's the point I wanted to make.

CHAIRMAN LA ROSA: Okay.

MR. MOYLE: All right. Thank you for your time.

THE WITNESS: Thank you.

CHAIRMAN LA ROSA: FEA.

CAPTAIN GEORGE: No questions, Mr. Chairman. Thank you.

CHAIRMAN LA ROSA: Thank You.

Sierra Club.

MR. SHRINATH: No questions. Thank you.

CHAIRMAN LA ROSA: Thank you.

FRF.

MR. WRIGHT: Thank you, Mr. Chairman, and good evening.

EXAMINATION

BY MR. WRIGHT:

Q Good evening, Mr. D'Ascendis. It was nice to meet you a little while ago.

A Yeah. It was nice to meet you too.

Q Thank you.

I have a few questions for you, and my friend Mr. Wahlen will be glad, I am going to condense a bunch of them when I get to it.

MR. WRIGHT: Quick question at the outset. If I could ask Mr. Schultz to please bring up what is identified as FRF-5. And then I will also be asking about FRF-6. They are in our exhibit list. They also bear the numbers F7-44 is the first page of FRF-5, and then F7-79 is the first page of FRF-6.

BY MR. WRIGHT:

Q Mr. D'Ascendis, these are simply copies of Hope and Bluefield to which you refer in your testimony. I would just like to ask you to look at them and say, yep, this is what they are, and, yep, this is what we rely on.

A Yes.

Q Thank you. I will move these later, but that's all I need to do with those for now.

I am going to ask a few questions, but I -- about Exhibit 321. But out of respect for my friend, Mr. Wahlen, and out of respect for everybody's time, I am going to condense my questions and not go line-by-line.

I have identified results for several of the operating companies that are owned by the parent companies in your proxy group. And your proxy group is as shown on page 19 of your direct testimony, correct?

A I think I updated it in my rebuttal testimony, but I get the gist.

Q Well, I am going to ask you, is such and such a company a utility operating company owned by such and such a member of your proxy group.

A Okay.

Q And then we will go on from there. I don't think it will take long.

Isn't it true that Duke Energy Carolinas and Duke Energy Progress both are owned by Duke Energy Corporation?

A Yes, sir.

Q And Wisconsin Power and Light is owned by

Alliant Energy?

A It is.

Q Oklahoma Gas and Electric Company is owned by OGE Energy?

A It is.

Q And Portland General Electric Company appears to be the same name as the operating utility company, is that correct?

A Yeah, that might be the only operating company that's publicly traded.

Q Okay. Thanks.

And Georgia Power Company is owned by Southern Company, a member of your proxy group?

A It is.

Q And Northern States Power, or NSP, is owned by Xcel?

A It is.

Q Thank you.

My next question is very simple. Will you agree that the S&P Global exhibit -- global compilation that's shown as Exhibit 321, which does include both recently awarded and pending rate increase requests, shows what it purports to show?

A Yes.

Q Thank you.

MR. WRIGHT: I would like, if we could, go back to -- sorry -- the document that Mr. Moyle was just asking Mr. D'Ascendis about. It's identified as C27-2859, the exhibit from Mr. Pollock's testimony.

CHAIRMAN LA ROSA: Okay.

BY MR. WRIGHT:

Q In your discussion with Mr. Moyle just now, Mr. D'Ascendis, you identified several of the cases in which you testified. My question for you is, which of these are operating utility companies owned by members of your proxy group? If you could just run down the list, that would be really great.

CHAIRMAN LA ROSA: It should be up in front of you now.

THE WITNESS: Yeah. Let me see.

So out of this -- out of these 52 companies, you want me to tell you which ones I testified for, and if they are a member of my proxy group?

BY MR. WRIGHT:

Q No, sir. I just want to ask you, which of these are members of your proxy group?

A Okay.

Q You already told Mr. Moyle which ones you testified in.

A Yeah. So I think it's 5, 9, 12, 13, 15, 18, 20, 21, 23, 25, 26, 35, 36, 39, 41. I think 42 came in in my rebuttal. 43 and 52. And I -- this is just looking at it now. I could have got some and missed some and --

Q Yeah.

A -- but looking at it right now, that sounds about right.

Q Thank you.

Are you aware of any evidence that any of these utilities, the ones you just identified as members of -- as operating utility companies owned by the members of your proxy group, any evidence that any of these utilities has not been able to provide safe and reliable service since its last ROE was determined?

A I couldn't tell you.

Q Similar question. Any evidence that any of these utilities has not been able to obtain sufficient capital to enable it to make necessary investments for it to provide service?

A Again, I couldn't tell you.

Q Thank you.

I am pretty confident you are aware that since 20 -- January of 2022, Tampa Electric has operated, first, for six months -- the first six months of 2022

with an ROE of 9.95 percent, and since that time, since July 1 of '22, with an ROE of 10.2 percent with a trigger --

A Yes.

Q -- is that your understanding? Thank you.

And during that time, their equity ratio, at least as approved, has been 54 percent?

A Yes.

Q Are you aware of any evidence that Tampa Electric has been unable to obtain needed capital to provide service during that time?

A I don't think so.

Q Are you aware of any evidence that, in 2025, Tampa Electric would not be able to obtain needed capital to make necessary investments?

A I don't know.

Q Isn't it true that Tampa Electric's affiliate, Peoples Gas System, has been able to make needed investments with the rates based on its approved RO -- Florida Public Service Commission approved ROE of 10.15 percent since the rates took effect in January of this year?

A I am not part of the treasury team, so I don't know what kind of issues they have raising capital, debt or equity.

Q Okay. I will ask you this similar question to the one I just asked then. Are you aware of any evidence that they have not been able to make necessary investments?

A I don't know. Probably -- probably not.

Q And you were a witness in that case, correct?

A I was.

Q And do I have it right that you recommended an ROE of 11.0 percent?

A That sounds accurate.

Q And I think we have covered this, but I will be quick.

Isn't it true that the 10.15 percent that the PSC approved for Peoples was 65 basis points above the US national average for gas utilities during the time period that the Commission considered?

A Yes. And that just shows how little weight the Commission and Commission staff have on national average ROEs.

Q Well, I think we will let the Commission decide what weight it's going to give the national averages and any other information, do you agree with that?

A Sure.

Q Thank you.

MR. WRIGHT: That's all the questions I have from Mr. D'Ascendis. I told you I would be quick.

CHAIRMAN LA ROSA: Great. Thank you.

How about Walmart?

MS. EATON: Yes. Thank you.

EXAMINATION

BY MS. EATON:

Q Can you hear me okay?

A Yep.

Q You are not a TECO employee, are you?

A I am not.

Q And you are not an employee with a TECO affiliate, correct?

A I am not.

Q You are a partner at ScottMadden, Inc., which is a consulting firm in New Jersey, correct?

A It's based in Raleigh, but I am stationed in New Jersey.

Q Sure. And that's where you have come from to testify for us today?

A Yes.

Q And so you are a paid consultant for TECO in this matter, is that correct?

A I am.

Q And I am, like some of my colleagues here,

going to ask you a few questions about your opinions on the return on equity.

On page 31 of your direct testimony, you discuss the Risk Premium Model. Do you recall that discussion generally?

A Sure.

Q And then on page 38 of your direct, I think it's on pages 38 and 39, you also discuss a Predictive Risk Premium Model, or R -- PRPM. Do you recall that discussion?

A Yeah. It's a mouthful.

Q Yeah. I know. I am going to botch that.

I believe on page 41, at lines 13 to 14 of your direct testimony, you mentioned that the South Carolina Public Service Commission found your arguments persuasive in a 2017 docket involving Blue Granite Water Company. Do you recall that?

A Yes.

Q And would you agree, that's not an electric utility case?

A It is not.

Q And that South Carolina PSC decision was six years ago?

A That's right.

Q And then on page 42, at lines seven through 19

of your direct, you then also reference a North Carolina utility commission approval of your RPM and CAPM analyses and Docket W-354, Subs 363, 364 and 365. Do you see that?

A Yes, ma'am.

Q And would you agree, that was also a water case?

A Yes, ma'am.

Q And per your direct testimony, Exhibit DWD-1, which I believe is CEL Exhibit 28, at page five of seven, that North Carolina case looks like it occurred in 2019 -- June of 2019?

A That sounds right. It may have, you know, went into 2020 by the time the decision went, but yeah.

Q Sure.

And your direct testimony exhibit, was that you trying to capture times where you worked on those cases, the month or the year that you worked on those cases?

A Yes. Generally, witnesses have their CVs and their expert witness appearances. It's simply that.

Q Sure.

I heard you tell Ms. Christensen that you have test -- presented ROE testimony in many other states, and that would include Kentucky and Maryland, is that

correct?

A Yes.

Q I believe in Kentucky, you presented ROE testimony in Case No. 2021-00190, which was the electric application of Duke Energy Kentucky, Inc., for an adjustment of the natural gas rates, approval of new tariffs, and all other regulated -- or required approvals, waivers and relief, which was Kentucky PSC order December 28th, 2021. Does that sound familiar?

A Yes. I think it was a settlement.

Q Do you recall that, on behalf of Duke Energy Kentucky, you recommended an ROE of 10.3?

A That sounds about right.

Q And do you recall whether you provided testimony on the stand, or simply provided testimony prior to the matter resolving?

A We settled, and we were -- and we did go to Frankfort and there was no questions. So I was there.

Q Do you recall what the Kentucky Commission said in its order about your testimony on behalf of Duke Kentucky?

A I think they talked about the nonregulated proxy group not -- giving little weight to it, and rejecting the PRPM. And similarly, I think we explained earlier that I didn't consider those in this case for my

recommendation.

Q Sure.

Just for the record, and to make sure that that is accurate, can you pull up Walmart-5, which is CEL 820? And that is the order in Kentucky case number 2021-00190.

A And again, that's a settlement.

Q And there is a Commission order following that case that I wanted to ask you about, the order, because you said you provided testimony, correct?

A What's that?

Q You provided testimony in that case on behalf of Duke Energy -- or Duke Energy Kentucky, correct?

A Yes. I was just characterizing this order as a settlement.

Q Can you turn to page 14 of the Commission's order, please?

A Sure.

Q I am sorry. I don't have the jump page for you.

A Yeah. It looks like it's F9127.

Q Okay. On page 14, do you agree that the Commission stated, quote: Duke Kentucky's use of the Predictive Risk Premium Model should be rejected. The PRPM model has only been addressed in three regulatory

commissions thus far and is not universally accepted. And the Commission further stated that the Commission is concerned about the blackbox aspects of the PRPM, do you see that?

MR. WAHLEN: Mr. Chairman, I am not sure why this is relevant. Mr. D'Ascendis has, I believe, indicated that he has not used that model in this case, and so I don't know why we are cross examining about a model that may have been rejected by another commission that is not being used by Mr. D'Ascendis in this case.

CHAIRMAN LA ROSA: Let me hear from the other counsel.

MS. EATON: It's included in his direct testimony. And he also said that he did still model it in this case. And in addition, I believe he said that he offered the Commission staff and OPC the opportunity to use this model, and he disagreed with this commission's opinion that that was relevant.

CHAIRMAN LA ROSA: We can go to --

MR. WAHLEN: He can answer the question. That's fine. I mean, I don't think he has used it, but he can explain.

THE WITNESS: So that's fine. I agree with

what the order says. But like Mr. Wahlen said, if you take a look at page 44 of my direct testimony, line 12 through 45, line four, it says that I have changed my application of the PRPM, and then, in deference to the Commission, that I have not considered it in my analysis while leaving it for you guys to look at it. But in my analysis, it does not -- it does not hold any weight in my analysis in this case at all.

BY MS. EATON:

Q And in your direct, on page 44, starting at line 24, that is -- your full answer is: While I respectfully disagree with the Commission -- and by the Commission, in this instance, you are speaking of this commission, correct?

A Yes. And I said that.

Q That while you respectfully disagree with this Commission's finding in Order No. PSC-2023-3088-FOF-GU, I have presented my ROE model results, including and excluding the PRPM for the Commission's convenience, as can be gleaned from Document No. 2, my recommendation ROE of 11.5 percent is still within the range of ROEs produced by my models without the PRPM.

Did I read that correctly?

A Yes, you did; but when I -- if you look at the

non -- I mean, I don't want to get into semantics, but it's -- I am not -- I am not considering it in this case.

Q Sure. And I was presenting this Kentucky order, because I didn't want you to have to just recall it off memory, and I believe you have answered my questions as to what it stated.

I want to move on to asking you some questions about a case you presented testimony for in Maryland. Do you recall presenting ROE testimony in Maryland, Case No. 9490, in the matter of the application of the Potomac Edison Company for adjustments to its retail rates for the distribution of electric energy, which was a Maryland PSC decision March 22nd, 2019. Do you recall that?

A It was five years ago, but, yes, I recognize that.

Q Do you recall that, in the Maryland case, you recommended an ROE of 10.8 percent?

A Can I see the order, please?

Q Yes. Walmart-6 is CEL 821. And on page two of that Commission order, can you see what the Maryland commission -- do you have that?

A Not yet.

Q Okay. Sorry. It takes a second to pull it

up. It's very good technology, but there is definitely a little bit of a lag.

A I will let you know. It's still kind of chugging along.

Okay. Yeah, I think I am there. Master F9174?

Q In the Maryland case, do you recall that you had recommended an ROE of 10.8?

A That's what it says.

Q And that the Maryland Commission ordered an ROE of 9.65 percent?

A Yes. It's -- this thing is kind of breaking down, but, yes, I remember that.

Q Okay. Can we go to page 74 of that order?

A I don't think so. Yeah. This is Pollock's stuff. Give me one second.

Q By Pollock, you are referencing Mr. Pollock, who is also a witness in this case?

A Yes. This is still the old stuff.

All right. I think we are good now.

Q Okay. Do you see on page 74, where the Maryland Commission refers to the Baltimore Gas and Electric case, a 2011 case, do you see that reference?

A Yeah. Yeah.

Q And in that footnote 269, the Maryland

Commission states that the Commission has previously found that including unregulated companies in the proxy group produces results that are significantly out of line for a regulated distribution company and justifies rejection of the non-utility returns. Do you see that?

A Yes.

Q And on page 75 of the order, the Commission further finds that the adjustments proposed by Potomac Edison for business risk, credit risk and flotation should be rejected. Do you see that?

A Yes. And --

Q And those are --

A -- so --

Q -- recommendations you made, is that correct?

A Yes, but in the Peoples Gas case, the Commission accepted my flotation cost analysis using the same parent company and the same sister company, so -- and that was last year, not five years ago. And it was in Florida and not in Maryland.

So I mean, the more relevant decision, as far as flotation costs are concerned, would be the Peoples Gas case. As far as my recommendation as compared to -- if you want to go up to page 73 --

Q No, I --

A -- of that order, you can see --

Q I finished my questions on that. I want to try to move along a little bit.

I have prepared a chart which charts the Kentucky case we just looked at, and the Maryland case, as well as others in which you have testified that the information from -- about which cases you have testified in comes from your CV, which is Exhibit DWD-1 to your direct testimony, which again, is CEL Exhibit 28. So I would like to pull up chart, which has been marked as CEL 819, and it is Walmart-4. And this is intended to make it a little bit faster and easier than going through all the cases on your CV. I have just selected a few of those.

Can you -- do you see the chart yet? Has it pulled up on your screen yet?

A It is.

Q Okay. The Kentucky and the Maryland cases we just discussed are on the chart, as well as others, is that correct?

A Right. And if you look at the chart, Kentucky is a settlement. New Jersey is a settlement. The North Carolina ones are settlements. The Texas ones -- both Texas ones are settlements. The Monongahela Power is fully litigated, and the second one is not.

Q Do all of these cases on the chart appear to

be cases in which you provided testimony?

A Yes.

Q And does the chart show recommended ROEs you made in each case, as well as either a stipulated or litigated outcome?

A Yes. I think so.

Q And subject to check, do you agree that the ROE recommendation stated in this chart accurately reflects your recommendations in those cases?

A There might be times where I recommended a range, but I would take that subject to check.

Q Okay. And subject to check, do you agree that the ROE outcomes reflect the actual ROES that were either stipulated or that were authorized after litigation?

A Yes. I think we have talked enough about, you know, the circumstances surrounding settled ROEs, though, where they are part of a package, and if that -- if one piece of the package falls apart, that the -- everything falls apart. So it's a -- it's a product of give and take, and those ROEs aren't specifically market-based numbers or precedent setting, period.

Q I appreciate your opinion. I need you to really stick to the questions so we can get through this.

Did any of the stipulated or litigated outcomes listed on that chart match the ROEs that you recommended on behalf of each utility?

A No.

Q In fact, many of these outcomes are more than 100 basis points lower than your recommendations, is that right?

A Two are.

Q Wouldn't you agree that the ROEs that utilities agree to in settlements reflect ROEs that the utilities believe are sufficient to enable them to attract sufficient capital to support needed investments?

A I don't know why they enter the settlements or settle the ROEs. I am never in the room with them. And generally, they come up with a package with the other interveners and they move on.

Q Do you contend that any of the utilities on this chart have not been able to provide safe and reliable service with the ROEs that they were awarded in those cases?

A I mean, it depends, because some of them went right back in and filed rate cases recent -- right afterwards, because they didn't get what they wanted in the settlement, like South -- SPS -- or -- yeah, SPS

went right back in that next year.

Q Would you consider Duke Energy Florida the closest peer to TECO, in that it is in the same state and is in a similar environment, i.e., in Florida coastal and hurricane risk?

A No.

Q What would you consider the closest peer with TECO?

A You can't compare those two companies. Generally, if you are -- I mean, there was a fair amount of discussion with Mr. Collins about how much bigger Duke Florida is compared to TECO.

In preparation of my testimony -- or of this cross-examination, I reviewed the FEMA danger scores of the counties served by Duke Florida and Tampa Electric. And the danger -- the danger score for TECO is 98, which is categorically high; and the danger score for Duke Florida is 83, which is significantly less. So I mean, you can't talk about comparability. Every company has their unique risks. So, I mean, as far -- you can't compare one to the other.

Q I want to -- stick -- we have to stick to the question I asked you, and you said no.

And so with respect to Duke Energy, isn't Duke Energy Corporation, and some of its subsidiaries, a part

of your proxy group?

A So when you -- yes, but when you select a proxy group, you aren't going -- and it's in my direct testimony -- you don't get exact replicas of TECO energy.

Q Sure. And I am not asking you about exact replicas. I am asking you whether or not, in your opinion -- it's okay if you say yes or no to this -- is Duke Energy Florida the closest peer utility, IOU utility, to TECO in Florida?

A I mean, how many more qualifiers? But I would say they are similar as they are 100 percent regulated electric utility company in Florida.

Q I want to ask you some questions about your rebuttal testimony. On page three, lines six to seven, you reiterate your recommendation of the eleven-and-a-half ROE, is that correct?

A Yes.

Q And in your rebuttal, you respond to the other party witnesses direct testimony on the Issue 39, which is the ROE issue, is that right?

A Yes.

Q On page two of your rebuttal, lines six to 19, you identify the five what you, quote, opposing ROE witnesses that you are addressing; and that is Dr.

Woolridge, Christopher Walters, Steve Chriss, Jeff Pollock and Karl Rabago. Do you see that?

A Yes.

Q And do you understand that Dr. Woolridge is testifying on behalf of the OPC, which is on behalf of all Florida customers that are TECO customers?

A I don't know who OPC represents, but I will take it.

Q Okay. Subject to check --

A Sure.

Q -- that's what the Office of Public Counsel represents?

A Sure.

Q And that Christopher Walters, the witness for the Federal Executive Agencies, is testifying on behalf of those military and other federal agencies?

A Yes.

Q And Steve Chriss is a witness for the Florida Retail Federation, including all retailers, including my client, Walmart, Inc.?

A Yes.

Q And Mr. Pollock is a witness for Florida Industrial Power Users Group on behalf of all industrial user customers?

A Yes.

Q And Karl Rabago is a witness for Florida Rising and LULAC, which also represents residential customers?

A Yes.

Q And that necessarily means that all five witnesses disagreed with your recommendation that TECO should be awarded with an eleven-and-a-half ROE, is that correct?

A Yes. But only two of them provided market analysis of the ROE, and that would be Dr. Woolridge and Mr. Walters.

Q All right. I believe that was one of the criticisms that you had of Mr. Chriss' testimony, was that he did not undertake a market-based analysis of TECO's ROE. I think that was something you said on page 130?

A That's right, because, like I said earlier, the market -- when you look at regulated authorized ROEs, they don't move with market. Like, when interest rates change, those things are still sitting there. They are static. When you are talking about market based analyses, the market data moves with market actions. Authorized returns do not.

Q And you -- so you consider what Mr. Chriss did was analyze array data, or market data, is that right?

A Yes, more observations than analysis.

Q And then you said: Other opposing ROE witnesses did use various analytical models, because Dr. Woolridge and Mr. Walters used the DCF and the CAPM models; is that correct?

A Yes, and Mr. Walters uses the Risk Premium Model.

Q Would you agree that this commission is not bound to adopt any certain model or analysis in setting an authorized ROE?

A I agree with that.

Q And you would also agree that this commission has fairly broad discretion to evaluate a number of variables in setting an authorized ROE, correct?

A Yes.

Q In fact, this commission may consider and evaluate recent rate case ROEs it approved, correct?

A It would be against what they usually do, but yes.

Q And while not binding, this commission could also consider and evaluate recent rate case ROEs approved by other commissions nationally, isn't that true?

A Again, that's against what they usually do, but yes, they could.

Q And I want to return to the opinions of these opposing ROE witnesses in this docket.

Do you recall the particular ROEs that each one of those individuals recommended?

A I do, but --

Q And I can list them off and ask you subject to check, if you would like.

A Sure. But I will stop you when I want to stop you.

Q I am sure you will try.

Okay, subject to check, did Dr. Woolridge, the witness for OPC, recommend an ROE of 9.5 percent?

A Yes, he did.

Q Did Christopher Walters, the witness for FEA, recommend an ROE of 9.6 percent?

A Within a range of 8.80 to, looks like, 11.43. So Mr. Walters had an indicated ROE of 11.43. And this is all shown in my Document No. 11, which is the histogram of Mr. Walters' recommended ROEs and indicated ROEs.

Q What did you call it? A histogram?

A Yes.

Q What do you mean?

A If you could pull up Document No. 11, page one.

Q Can you describe it in words what you mean by the word histogram?

A Pictures are usually worth more than words, so...

CHAIRMAN LA ROSA: I think we might need more direction.

MS. EATON: Yeah.

THE WITNESS: So it's Exhibit DWD-2, Document No. 11, page one of one. So -- it would be Bates number 203, if that helps.

So there it is. So this is a histogram of Mr. Walters' ROE results. The histogram is the frequency of data within a population of results --

BY MS. EATON:

Q Are you calling --

A -- if you could see -- if you see the histogram, you could see that the majority of his results are above his recommendation.

CHAIRMAN LA ROSA: Let's allow counsel to ask a question.

BY MS. EATON:

Q Are you calling the histogram the bar chart?

A Yes.

Q Okay. That's all I was asking you. What are you referring to?

Okay. So you disagree that Mr. Walters, in this case, recommended an ROE of 9.6 percent?

A I was expressing the range.

Q Okay. And did you see his recommendation at 9.6?

A And I think it's -- it doesn't reflect his results. And that was in my rebuttal testimony.

Q Okay. Did you see Mr. Pollock, witness for FIPUG, recommend an ROE of 9.78 percent?

A I think that was based on the average, right? I remember, I --

Q Subject to check?

A Yes.

Q And subject to check, do you recall, Dr. -- I mean, Karl Rabago, witness for Florida Rising and LULAC, recommending an ROE of 9.5 percent?

A Yes.

Q And do you recommend -- recall Mr. Chriss, witness for FRF, reference a range to date, the 2021 to 2024 average as of the time of his testimony was 9.62, and thus far, in 2024, is 9.72?

A I don't think he provided a recommendation in the case, though.

Q No. Do you recall that range?

A Yeah, but he didn't recommend a range, because

frankly, he didn't conduct an analysis.

Q Do you recall that testimony, though?

A Yes.

Q And will you agree that none of the opposing ROE witnesses recommends or supports an ROE above 9.78 percent?

A I agree with that, but their individual model results indicate higher ROEs than what they recommend.

Q And would you agree that there is a significant difference between 11-and-a-half percent and 9.78 percent?

A Yes.

Q And subject to check, would you also agree that the difference between 11-and-a-half percent and 9.78 percent is over $100 million?

A I don't -- I don't know.

Q Subject to check?

A Still, I don't know.

Q Okay. Thank you.

MS. EATON: That's all.

CHAIRMAN LA ROSA: Thank you.

Staff.

MR. MARQUEZ: Staff has no questions. Thank you.

CHAIRMAN LA ROSA: Commissioners?

Commissioner Passidomo.

COMMISSIONER PASSIDOMO: Thank you, Mr. Chair. This is quick.

You are you're picking proxy groups, the number that you put into your -- for your analysis, is that the same for every time that you appear as a witness, you know, for other utilities?

THE WITNESS: No. It depends on the type of company. So if it's an electric group, I -- since there is a large population of them, I am able to kind of tighten the screws down on regulated assets and net operating income attributable to regulated service to try and get them down -- get them closer to 100-percent pure play.

But with the lower -- if there is, like, a water company, or something like that, they have a limited number of company. So you kind of relax the range to get where you need to have a robust analysis.

COMMISSIONER PASSIDOMO: Thank you.

CHAIRMAN LA ROSA: Thank you.

Seeing no further questions, I will send it back to TECO for redirect.

MR. WAHLEN: Thank you, Mr. Chairman. And thank you for the help of the staff getting a

couple of documents printed out.

Ms. Ponder and Mr. Means are handing out a couple of orders and filings in the case that was the subject of the document that's been identified as Exhibit 839, and I would like to ask Mr. D'Ascendis about them.

Mr. Chairman, just for simplicity purposes, I wonder if we could get a document number for -- or an exhibit number for Delta Natural Gas Company's Notice of Witness Resubstitution. Would that be 840?

CHAIRMAN LA ROSA: I believe we are at 840, but staff can double check. Yes, 840 is correct.

(Whereupon, Exhibit No. 840 was marked for identification.)

MR. WAHLEN: And then the second document, which is entitled, Order, and appears to be dated November 12th, if we could make that 841.

CHAIRMAN LA ROSA: Yes, that is 841.

(Whereupon, Exhibit No. 841 was marked for identification.)

FURTHER EXAMINATION

BY MR. WAHLEN:

Q Now, Mr. D'Ascendis, if you recall, you were asked about Document 839, which is an order that

indicates that you adopted Mr. Moul's -- is it Mole (ph?

A Moul.

Q Moul - Mr. Moul's direct testimony after he had been in a bicycle accident?

A Yes.

Q All right. Now, I would like you to look at Document 840. Are you familiar with that document?

A Yes.

Q And is that a filing that the utility made in that Case No. 2021-00185?

A Yes.

Q And would you just read for the record -- well, just read it, the whole thing.

A Sure.

On July 27th, 2021, Delta Natural Gas Company, Inc., Delta, provided the notice that Paul Maul's May 28th, 2021, direct testimony was adopted by Dylan D'Ascendis due to a serious accident prevented -- that prevented Mr. Moul from serving as a witness at that time. On August 13th, 2021, Mr. D'Ascendis sponsored data requests regarding the rate of return on equity recommended in Mr. Moul's direct testimony. Mr. Moul's health now permits him to resume his role as Delta's expert witness regarding the return on equity matters in this proceeding. As such, Mr. Moul readopts his May

28th direct testimony, and adopts all of the data responses sponsored by Mr. D'Ascendis that were filed on August 13th, 2021, in response to Commission Staff's second request for information and Attorney General's first request for information. Mr. D'Ascendis is not expected to have further involvement in this proceeding on behalf of Delta.

Q Okay. And did you have any further involvement in that case after September 20th?

A No.

Q Okay. I now ask you to look at the document that we have identified as No. 841, which is the order. Do you see that?

A Yes.

Q Without reading the whole thing, could you just focus on the second paragraph, and generally describe what this order does?

A Sure. It just -- it says that there is good cause to grant Delta's motion and permit Mr. Moul to attend and testify in the scheduled hearing virtually.

Q So he readopted his original testimony, and then actually testified on behalf of the utility?

A That's right.

Q And you did not?

A That's right.

Q Do you think that that explains the confusion that occurred over the order that was identified as 839?

A Absolutely.

Q Thank you.

Mr. D'Ascendis, during your cross-examine by -- examination by Ms. Christensen, she was asking you some questions, and you wanted to explain your histogram and why you ended up with your 11.5 ROE, and Ms. Christensen did not allow you to answer that question. Could you briefly explain, using your histogram, why you landed on 11.5?

A Yes, I can. It's really quick.

If you look at my Document No. 2, and that would be -- on this -- on the rebuttal testimony, it would be 187, the Bates number at the bottom, but I will go before it's up there -- well, I will wait. You -- yeah.

So it would start at page one. It goes through page four. It will show that I did a similar analysis to what I did with Mr. Walters, about my indicated results and the distribution of them. If you look at those, and if you -- and if you look at the bottom, the percentile rank of my recommended ROE of 11.50, you will see that it falls generally in the middle of my indicated results, even though my

recommendations above the midpoint of my analyses, my recommendation is right in the middle of my indicated ROEs.

Q Thank you.

MR. WAHLEN: No further questions.

CHAIRMAN LA ROSA: Great. Thank you.

Let's talk about exhibits. TECO?

MR. WAHLEN: Tampa Electric would move Exhibits 28, 148, 840 and 841.

CHAIRMAN LA ROSA: Is there objection?

Seeing none, show them entered into the record.

(Whereupon, Exhibit Nos. 28, 148, 840 & 841 were received into evidence.)

CHAIRMAN LA ROSA: OPC.

MS. CHRISTENSEN: Yes. OPC would ask to have Exhibit 321, which I think has already been admitted, be admitted into the record if it has not, and 839 admitted into the record.

CHAIRMAN LA ROSA: Is there objection?

MR. WAHLEN: No objection.

CHAIRMAN LA ROSA: Seeing none, show them entered into the record.

(Whereupon, Exhibit Nos. 321 & 839 were received into evidence.)

CHAIRMAN LA ROSA: Any other parties have any other exhibits?

MR. WRIGHT: Mr. Chairman.

CHAIRMAN LA ROSA: Yes, sir.

MR. WRIGHT: The Florida Retail Federation moves 814 and 8 -- CEL Exhibits 814 and 815. These are the two cases we identified earlier.

Thank you.

CHAIRMAN LA ROSA: Okay. Is there objection? Seeing --

MR. WAHLEN: No objection.

CHAIRMAN LA ROSA: Seeing none, show that entered into the record.

MR. WRIGHT: Thank you, Mr. Chairman.

(Whereupon, Exhibit Nos. 814-815 were received into evidence.)

CHAIRMAN LA ROSA: Mr. Moyle.

MR. MOYLE: FIPUG would move -- it's mark JP-1, Exhibit 82 on the Comprehensive Exhibit List.

MR. WAHLEN: I am going to object to that. That's Mr. Pollock's testimony -- or exhibit.

CHAIRMAN LA ROSA: Can I get clarification?

MR. MOYLE: It is.

MR. WAHLEN: Well, it's not Mr. D'Ascendis' exhibit. I may not object to it when Mr. Pollock

offers it tomorrow, but I am not sure I want Mr. D'Ascendis to sponsor Mr. Pollock's exhibit.

MR. MOYLE: I can offer it tomorrow, but I thought our new rule was object when he is talking about it. It was put up a lot. I mean, whatever. I don't have strong feelings about it. I was just going to get it out of the way.

MS. HELTON: I think it's better to, when Mr. Pollock comes up, to admit that one. I mean, it's already been used, and I think that will be fine.

CHAIRMAN LA ROSA: Sure. Then we will wait.

Anything else?

MS. EATON: Yes. We would like Walmart-819 on the CEL through 828. That is the chart that I showed, as well as the orders that support the information on the chart.

CHAIRMAN LA ROSA: Is there objection?

Seeing none, show those entered into the record.

(Whereupon, Exhibit Nos. 819-828 were received into evidence.)

CHAIRMAN LA ROSA: Any other parties?

MR. WAHLEN: We have a scheduling matter before we adjourn tonight, at the Commission's convenience.

CHAIRMAN LA ROSA: Sure, let's -- yeah. Let's talk about that now then.

MR. WAHLEN: Okay.

CHAIRMAN LA ROSA: Let's excuse Mr. D'Ascendis, is that fair?

MR. WAHLEN: Sure. He is -- we are paying him by the minute, so let's get him --

CHAIRMAN LA ROSA: I saved you a few.

MR. WAHLEN: -- get him out of here.

CHAIRMAN LA ROSA: Thank you sir, for your witness testimony.

(Witness excused.)

MR. WAHLEN: We have had some very, I think, productive discussions today with the consumer parties, and I appreciate that.

Our proposal for the Commission's consideration -- and if I get this wrong, I invite the interveners to correct me, but we would propose that beginning tomorrow morning, we would start with the intervener witnesses as listed in the Prehearing Order on page six, and try to get through all of them tomorrow or --

CHAIRMAN LA ROSA: Starting off with Mr. Chronister?

MR. WAHLEN: Maybe Mr. Dismukes, Dr. Dismukes.

MR. WRIGHT: Intervener witnesses.

CHAIRMAN LA ROSA: Oh, sorry. I am looking at the wrong list.

MR. WAHLEN: And then once we are through with all of the intervener witnesses, we would pick back up with the Tampa Electric order of witnesses with Heisey, Strickland, Chronister, Ashmore -- or Sizemore and Williams, with the twist that we would go ahead and have Mr. Chronister and Mr. Williams present their direct and rebuttal together, instead of separately, which will, I believe, be more efficient.

If I got that wrong, somebody pipe up. But I think that's what was contemplated by the parties, if it's the pleasure of the Commission.

CHAIRMAN LA ROSA: Okay. Mr. Rehwinkel.

MR. REHWINKEL: Yes. Mr. Wahlen is correct, with one other twist, which is, I would hope there is a little bit of flexibility that we can take, by agreement, the intervener witnesses among ourselves. Dr. Woolridge has to give a deposition in the morning that he is going to do remotely from some location here in Tallahassee, and he expects it will be done by 11:00. So I would just ask for some flexibility to work through that among the

intervener parties, if that suits the Commission.

MR. WAHLEN: We have no objection to that.

CHAIRMAN LA ROSA: Okay. I think we can accommodate that.

MR. REHWINKEL: Thank you, Mr. Chairman.

MS. HARPER: Mr. Chairman, staff would offer that staff witnesses could go first then tomorrow, and that would provide some more time to accommodate everybody's schedule here as they are proposing.

CHAIRMAN LA ROSA: Yeah. That might then keep your witnesses in order.

MR. REHWINKEL: That works great for us.

CHAIRMAN LA ROSA: Okay. So then tomorrow, we will start with staff's witnesses, then we will go to OPC's witnesses, then we will pick back up where we left off today.

MR. MARSHALL: Well --

CHAIRMAN LA ROSA: Oh, yes, sure.

MR. MARSHALL: I think the idea was to -- for all the intervener witnesses, since they are all flying, I believe, you know, FIPUG and FEA also have their witnesses flying in for tomorrow. So I think it's -- we would go through all the intervener witnesses, and then go back and resume

with the TECO witnesses, is my understanding.

MR. WAHLEN: Yeah. That's what I have we have been talking about.

CHAIRMAN LA ROSA: Okay. Well, that was my mistake.

All right. Good deal. So I think we've got a reshuffled deck for tomorrow, but -- yeah, go ahead.

MR. SHRINATH: Mr. Chairman, Sierra Club would like to, if the Chairman allows, waive the rest of its cross of the rest of the witnesses and be excused for the last couple of days while remaining a part of your record.

CHAIRMAN LA ROSA: You sure you don't want to stay?

MR. SHRINATH: I would love to.

CHAIRMAN LA ROSA: I hadn't even gotten to tell you how long we are going to be here tomorrow. That's fine, if no other parties have any objections.

MR. WAHLEN: No objection.

CHAIRMAN LA ROSA: Okay. Great. So, yes, that will work.

MR. SHRINATH: Thank you.

CHAIRMAN LA ROSA: No problem.

So tomorrow morning, we will start at 8:00 a.m., if that's all right. Similar, like we did today, we will gauge it as we go along. Two-hour breaks -- or, no, not two-hour breaks. Every two hours -- it's getting late you can tell -- every two hours we will have a break. We will try to break for lunch around the 12 o'clock hour. If we have to go into the evening, we will, again, similarly with a dinner break, but I will, of course, keep you guys updated as we go along with that.

Commissioner Passidomo.

COMMISSIONER PASSIDOMO: So I am just -- before Sierra Club gets excused, do y'all need to move your witness testimony into the record?

MR. SHRINATH: We stipulated at the beginning of this hearing that --

COMMISSIONER PASSIDOMO: You did? Okay.

MR. SHRINATH: -- testimony --

COMMISSIONER PASSIDOMO: Okay. I just wanted to make sure.

MR. SHRINATH: Thank you.

CHAIRMAN LA ROSA: I appreciate that.

So then that will be tomorrow's schedule. Any issues or anything, of course, let us know. But if

we're all good, no further business before us today, we will reconvene tomorrow morning at 8:00 a.m.

Great. Thank you, guys.

(Transcript continues in sequence in Volume 10.)

CERTIFICATE OF REPORTER

STATE OF FLORIDA)
COUNTY OF LEON)

I, DEBRA KRICK, Court Reporter, do hereby certify that the foregoing proceeding was heard at the time and place herein stated.

IT IS FURTHER CERTIFIED that I stenographically reported the said videotaped proceedings; that the same has been transcribed under my direct supervision; and that this transcript constitutes a true transcription of my notes of said proceedings.

I FURTHER CERTIFY that I am not a relative, employee, attorney or counsel of any of the parties, nor am I a relative or employee of any of the parties' attorney or counsel connected with the action, nor am I financially interested in the action.

DATED this 3rd day of October, 2024.

DEBRA R. KRICK
NOTARY PUBLIC
COMMISSION #HH575054
EXPIRES AUGUST 13, 2028